

Figure 1

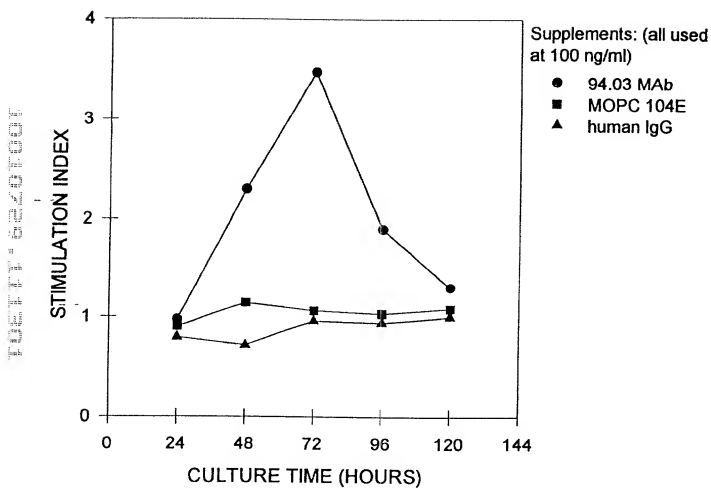


Figure 2

FIG. 3A

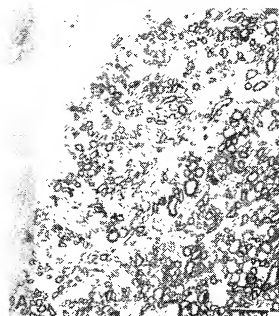


FIG. 3B

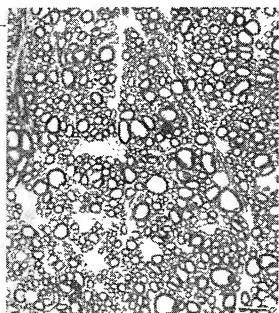
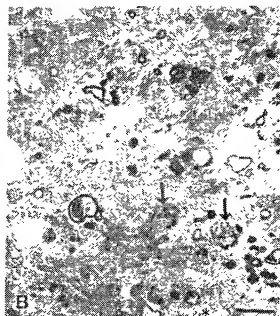


FIG. 3C

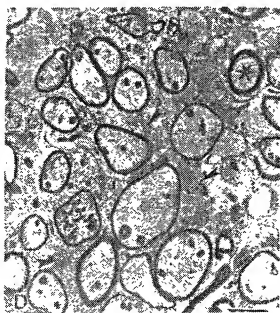


FIG. 3D

Figure 3

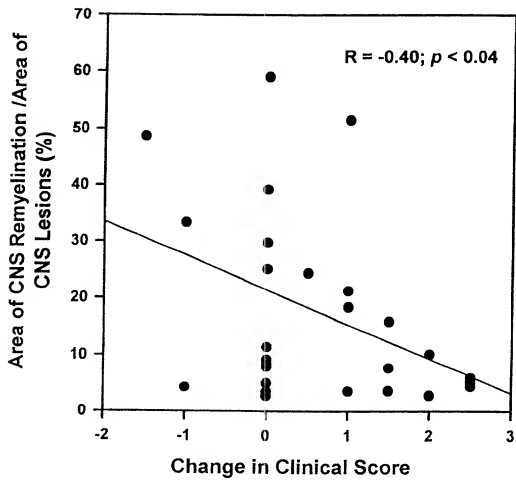


Figure 4

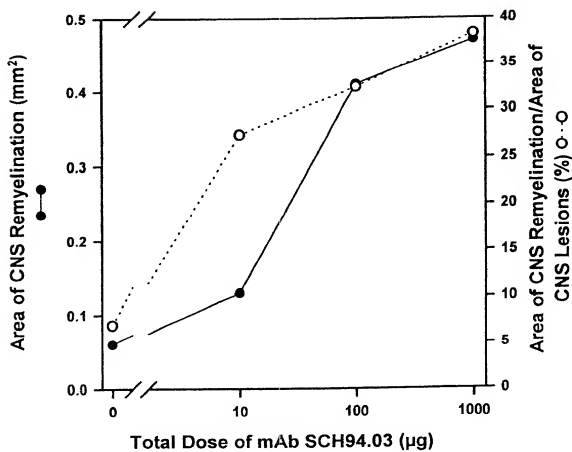


Figure 5

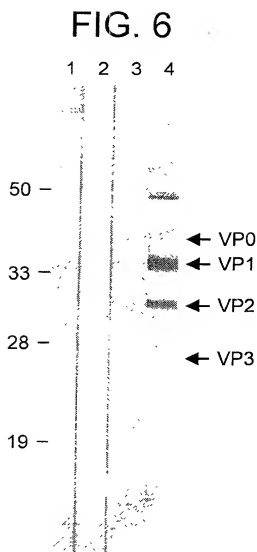


Figure 6

FIG. 7A

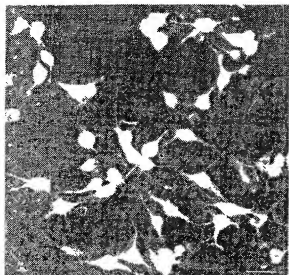


FIG. 7B

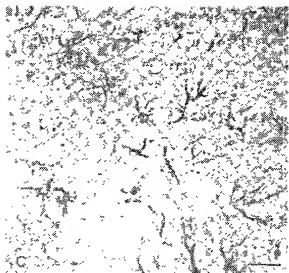


FIG. 7C

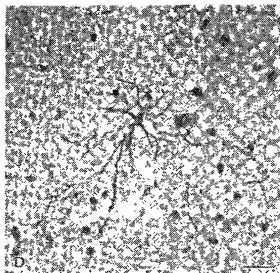


FIG. 7D

Figure 7

FIG. 8A

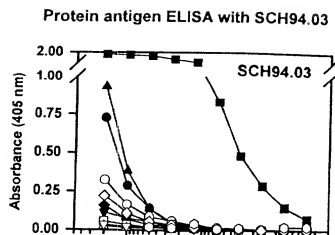


FIG. 8B

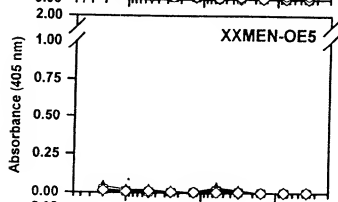
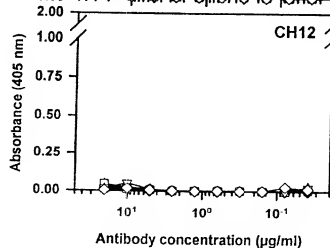


FIG. 8C



Antigen:

- | | |
|-----------------|---------------|
| ● KLH | ○ actin |
| ■ spectrin | □ lysozyme |
| ▲ hemoglobin | △ transferrin |
| ▼ vimentin | ▽ myosin |
| ◆ thyroglobulin | ◇ tubulin |

Figure 8

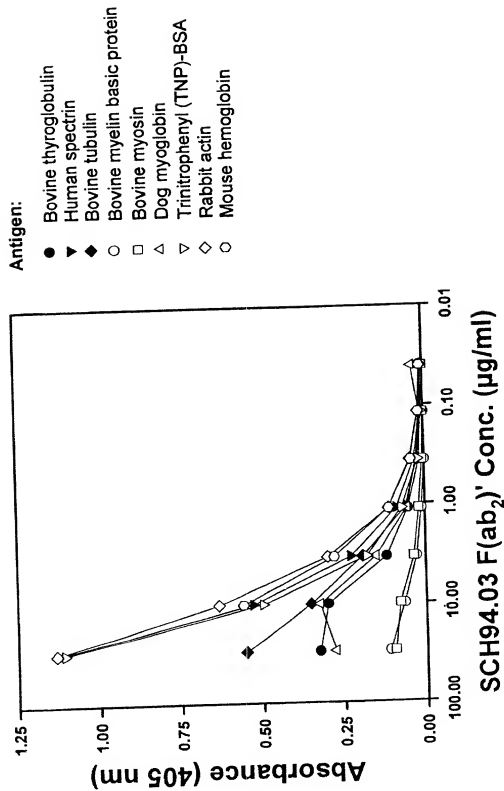
ELISA with SCH94.03 F(ab₂)' fragments

Figure 9

FIG. 10A

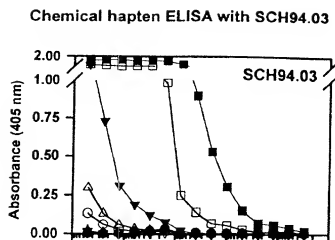


FIG. 10B

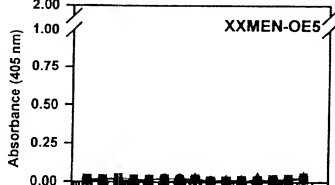
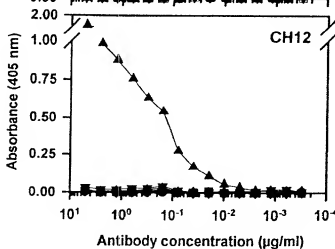


FIG. 10C



Hapten:

- | | |
|--------|-------|
| ● none | ○ Ars |
| ■ FL | □ NP |
| ▲ TMA | △ TNP |
| ▼ PhOx | ▽ PC |

Figure 10

Leader region

	-19	-9	-1	
1	N	M	S	S
2	A	Q	F	L
3	G	L	L	L
4	C	F	Q	G
5	T	R	C	D
6	I	Q	M	T
7	Q	T	Q	T
8	A	T	C	A
9	G	A	T	G
10	A	T	G	A
11	T	G	A	T
12	C	A	T	G
13	A	T	G	A
14	T	G	A	T
15	C	A	T	G
16	A	T	G	A
17	T	G	A	T
18	C	A	T	G
19	A	T	G	A
20	T	G	A	T
21	C	A	T	G
22	A	T	G	A
23	T	G	A	T
24	C	A	T	G
25	A	T	G	A
26	T	G	A	T
27	C	A	T	G
28	A	T	G	A
29	T	G	A	T
30	C	A	T	G
31	A	T	G	A
32	T	G	A	T
33	C	A	T	G
34	A	T	G	A
35	T	G	A	T
36	C	A	T	G
37	A	T	G	A
38	T	G	A	T
39	C	A	T	G
40	A	T	G	A
41	T	G	A	T
42	C	A	T	G
43	A	T	G	A
44	T	G	A	T
45	C	A	T	G
46	A	T	G	A
47	T	G	A	T
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49	A	T	G	A
50	T	G	A	T
51	C	A	T	G
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54	C	A	T	G
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74	T	G	A	T
75	C	A	T	G
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81	C	A	T	G
82	A	T	G	A
83	T	G	A	T
84	C	A	T	G
85	A	T	G	A
86	T	G	A	T
87	C	A	T	G
88	A	T	G	A
89	T	G	A	T
90	C	A	T	G
91	A	T	G	A
92	T	G	A	T
93	C	A	T	G
94	A	T	G	A
95	T	G	A	T
96	C	A	T	G
97	A	T	G	A
98	T	G	A	T
99	C	A	T	G
100	A	T	G	A
101	T	G	A	T
102	C	A	T	G
103	A	T	G	A
104	T	G	A	T
105	C	A	T	G
106	A	T	G	A
107	T	G	A	T
108	C	A	T	G
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110	T	G	A	T
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114	C	A	T	G
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117	C	A	T	G
118	A	T	G	A
119	T	G	A	T
120	C	A	T	G
121	A	T	G	A
122	T	G	A	T

1	10	20	30
1	T	S	L
2	S	L	S
3	A	S	L
4	S	L	G
5	L	G	D
6	R	V	T
7	I	S	C
8	R	A	S
9	Q	D	I
10	S	N	Y
11	L	N	Y
12	T	T	A
13	A	A	T
14	T	G	A
15	C	A	T
16	A	T	G
17	T	G	A
18	C	A	T
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21	C	A	T
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114	C	A	T
115	A	T	G
116	T	G	A
117	C	A	T
118	A	T	G
119	T	G	A
120	C	A	T
121	A	T	G
122	T	G	A

1	40	50	60
1	W	Y	Q
2	Q	K	P
3	D	G	A
4	G	A	T
5	A	C	A
6	C	A	T
7	G	A	T
8	A	T	G
9	T	A	A
10	A	T	G
11	C	A	T
12	A	T	G
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34	T	G	A
35	C	A	T
36	A	T	G
37	T	G	A
38	C	A	T
39	A	T	G
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56	C	A	T
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114	A	T	G
115	T	G	A
116	C	A	T
117	A	T	G
118	T	G	A
119	C	A	T
120	A	T	G
121	T	G	A
122	C	A	T

1	CDR1	CDR2	CDR3	J region	CK
1				100	110
2	Q	Q	G	N	T
3	L	L	P	F	G
4	C	T	G	G	T
5	A	G	A	C	K
6	T	G	A	C	L
7	G	A	T	G	E
8	A	T	G	A	I
9	T	G	A	A	K
10	C	A	T	A	R
11	T	G	A	A	A
12	C	A	T	A	D
13	A	T	G	A	A
14	T	G	A	A	A
15	C	A	T	A	A
16	A	T	G	A	A
17	T	G	A	A	A
18	C	A	T	A	A
19	A	T	G	A	A
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21	C	A	T	A	A
22	A	T	G	A	A
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25	A	T	G	A	A
26	T	G	A	A	A
27	C	A	T	A	A
28	A	T	G	A	A
29	T	G	A	A	A
30	C	A	T	A	A
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32	T	G	A	A	A
33	C	A	T	A	A
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49	A	T	G	A	A
50	T	G	A	A	A
51	C	A	T	A	A
52	A	T	G	A	A
53	T	G	A	A	A
54	C	A	T	A	A
55	A	T	G	A	A
56	T	G	A	A	A
57	C	A	T	A	A

Figure 11A

Leader region

19	G	W	S	C	I	I	L	F	L	V	A	A	I	G	V	H	S	O	V	O	L	O	O	P	O																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</
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Figure 11B

Figure 12

Figure 13

Figure 14

Figure 15

Leader Peptide

germline Vα41	M	D	V	R	A	P	A	Q	I	F	Q	F	L	L	L	L	F	Q	G	T	R	C	D	I	Q	M	T	Q
HNK-1	ATG	GAG	ATG	AGG	GCT	CCT	GCA	CAG	ATT	TTT	GGC	TTC	TTG	TTG	CTC	TTG	TTT	CAA	GGT	ACC	AGA	TGT	GAC	ATC	CAG	ATG	ACC	CAG
MORC41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

germline Vα41	S	P	S	S	L	S	A	S	L	G	E	R	V	S	L	T	C	R	A	S	Q	D	I	S	S	L	N	
HNK-1	TCT	CCA	TCC	TTC	TTC	TCT	GCC	TCT	CTG	GGA	GAA	AGA	GTC	AGT	CTC	ACT	TGT	CGG	GCA	AGT	CAG	GAC	ATT	GGT	AGT	AGC	TTA	ACC
MORC41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

germline Vα41	W	L	Q	Q	E	P	D	G	T	I	K	R	L	I	Y	A	T	S	L	D	S	G	V	P	K	R	F
HNK-1	TGG	CTT	CAG	CAG	GAA	CAA	GAT	GGA	ACT	ATT	AAA	GGC	GTG	ATC	TAC	GCC	ACA	TCC	TCA	GAT	TCT	GAT	GTC	CCC	AAA	AGG	TTC
MORC41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

germline Vα41	S	G	S	R	S	G	S	D	Y	S	L	T	I	S	S	L	E	S	E	D	F	V	D	Y	Y	C	L	Q
HNK-1	AGT	GGC	AGT	AGG	TCT	GGG	TCA	GAT	TAT	TCT	CTC	ACC	ATC	AGC	AGC	CTT	GAG	TCT	GAA	GAT	TTT	GTA	GAC	TAT	TAC	TGT	CTA	CAA
MORC41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	

germline Vα41	Y	A	S	S	P	Y	T	F	G	G	G	T	K	L	E	I	K	R
germline Jα2	TAT	GCT	AGT	TCT	CCT	---	---	---	---	---	---	---	---	---	---	---	---	---
MORC41	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Figure 16

Leader Peptide

A2B5	-----4-----																				-----30-----										-----60-----										-----90-----																			
	M	E	S	Q	I	Q	V	F	V	F	V	F	L	W	L	S	G	V	D	G	D	I	V	M	T	Q	S	H	C																															
	ATG	GAG	TCA	CAG	ATT	CAG	GTC	TTT	GTA	TTT	GTG	TTT	CTC	TGG	TTG	TCT	GGT	GTT	GAC	GGA	GAC	ATT	GTG	ATG	ACC	CAG	TCT	CAC																																
A2B5	-----10-----																				-----20-----										-----50-----										-----80-----										-----100A-----									
	K	F	M	S	T	S	V	G	D	R	V	S	I	T	C	K	A	S	Q	D	V	S	T	A	V	A	W	Y	T																															
	AAA	TTT	ATG	TCC	ACT	TCA	GTA	GGA	GAC	AGG	GTC	AGC	ATC	ACC	TGC	AAG	GCC	AGT	CAG	GAT	GTG	AGT	GCT	GCT	GTA	GCC	TGG	TAT																																
A2B5	-----40-----																				-----70-----										-----100-----										-----100A-----																			
	Q	Q	K	P	G	Q	S	P	K	L	L	I	Y	S	A	S	Y	R	Y	T	G	V	P	D	R	F	T	G																																
	CAA	CAG	AAA	CCA	GGA	CAA	TCT	CCT	AAA	CTA	CTG	ATT	TAC	TGG	GCA	TCC	TAC	CGG	TAC	ACT	GGA	GTC	GCT	GAT	CGC	TTC	ACT	GGC																																
A2B5	-----70-----																				-----100-----										-----100A-----										-----100B-----																			
	S	G	S	G	T	D	F	T	F	T	I	S	S	V	Q	A	E	D	L	A	V	Y	Y	C	Q	Q	H	Y																																
	AGT	GGA	TCT	GGG	ACG	GAT	TTC	ACT	TTC	ACC	ATC	AGC	AOT	GTG	CAG	GCT	AAA	GAC	CTG	GCA	GTT	TAT	TAC	TGT	CAG	CAA	CAT	TAT																																
A2B5	-----100-----																				-----100A-----										-----100B-----										-----100C-----																			
	T	T	P	L	T	F	G	A	G	T	K	L	E	L	K	R																																												
	CTC	ACG	TTC	GGT	GCT	GCT	GGG	ACC	AAG	CTG	GAG	CTG	AAA	CGG	GCT	GAT	GCT	TCA																																										
A2B5	-----100-----																				-----100A-----										-----100B-----										-----100C-----																			
	ACT	ACT	CCG	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---																																

Figure 17

FIG. 18

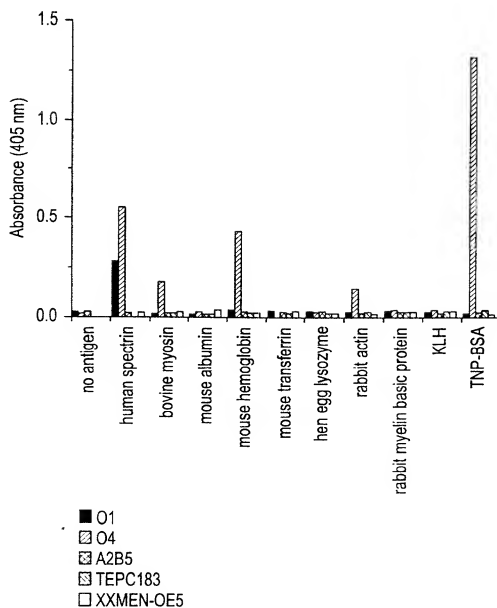


Figure 18

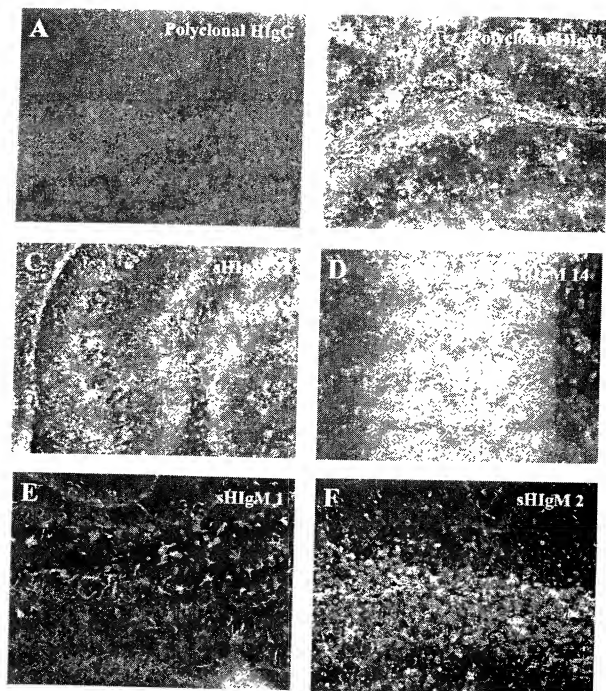


Figure 19

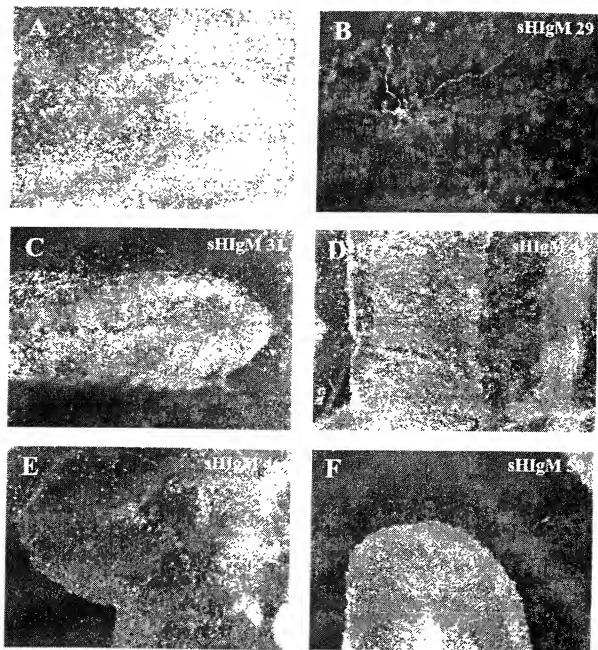


Figure 20

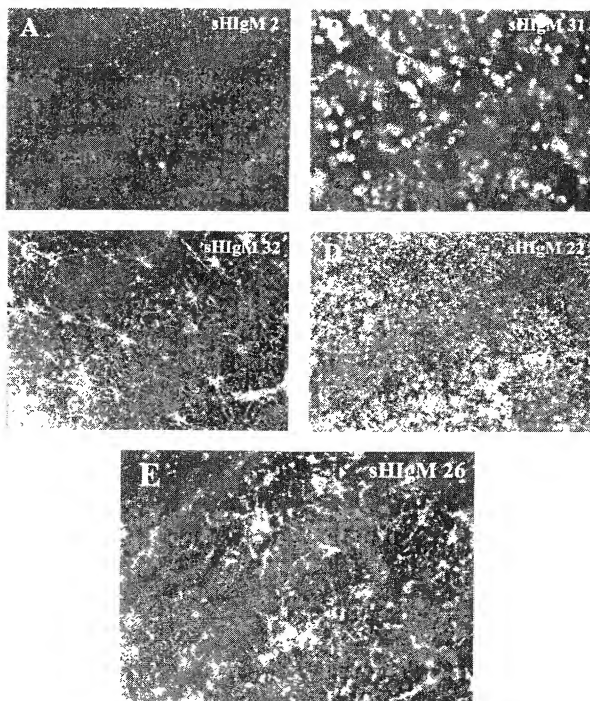


Figure 21

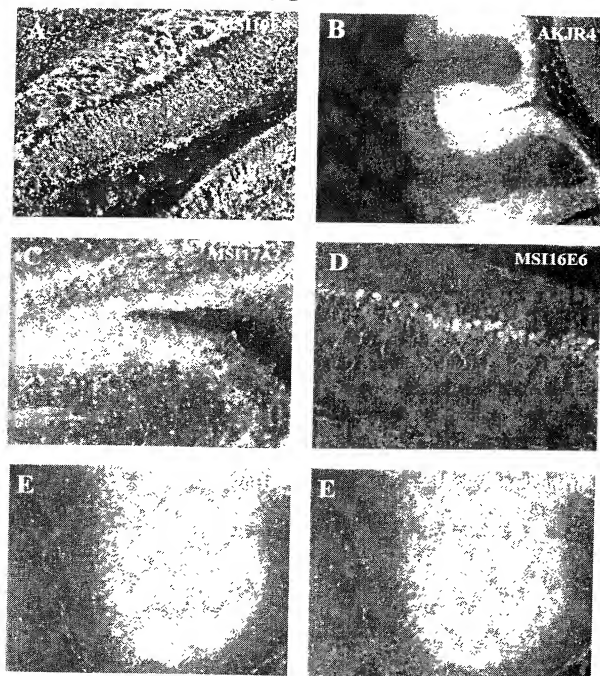


Figure 22

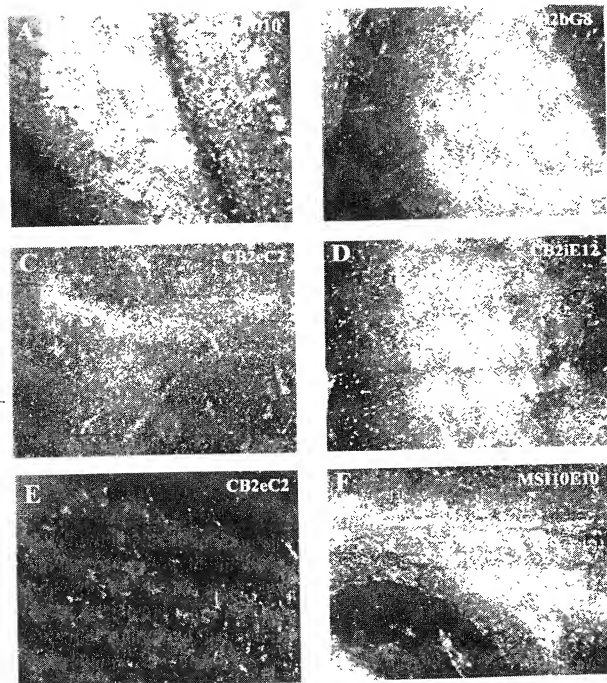


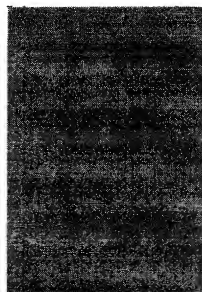
Figure 23

Human Antibodies Bind to Oligodendrocytes in Culture

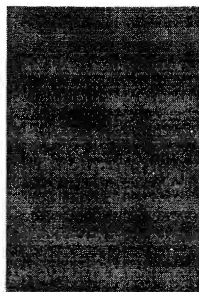


Polyclonal hlgM

MBP+ OL



Polyclonal hlgG



sHlgM 1



sHlgM 2

Figure 24

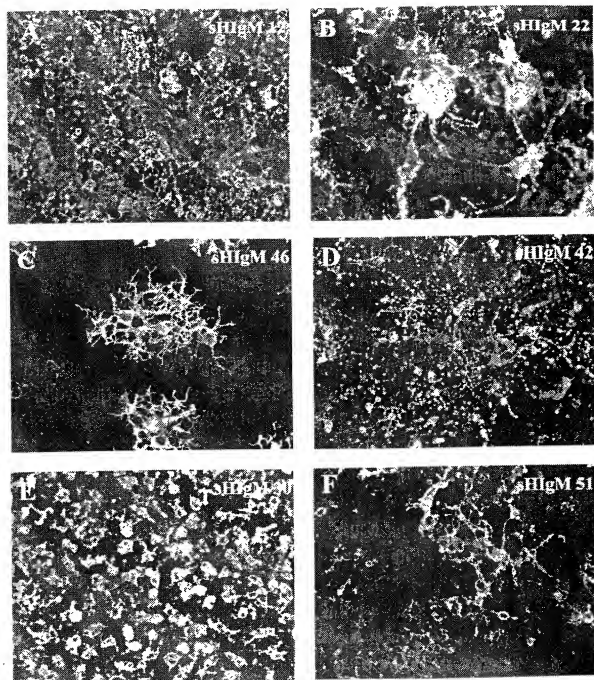


Figure 25

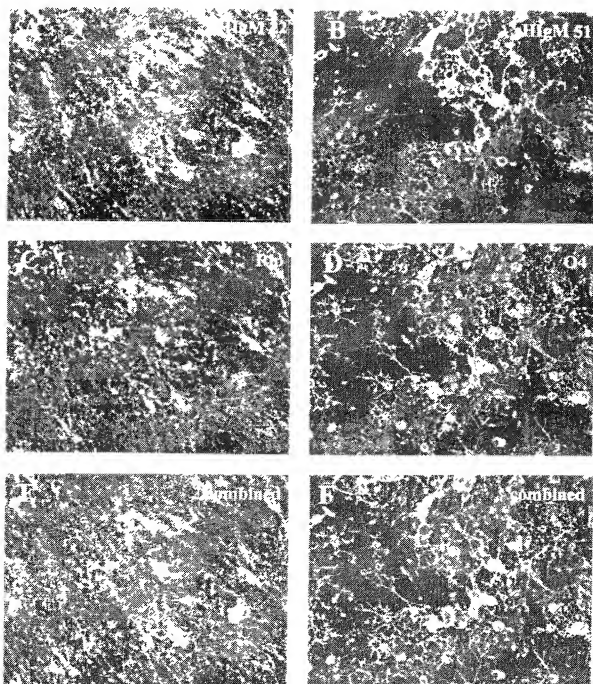


Figure 26

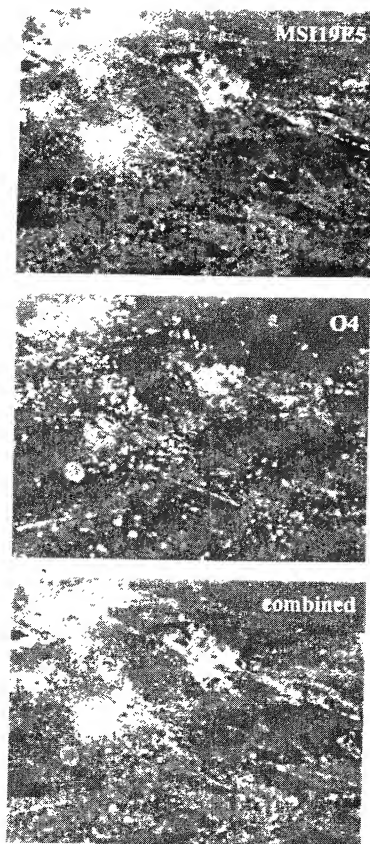


Figure 27

sHlgMs Characterized by Binding to SCH via ELISA

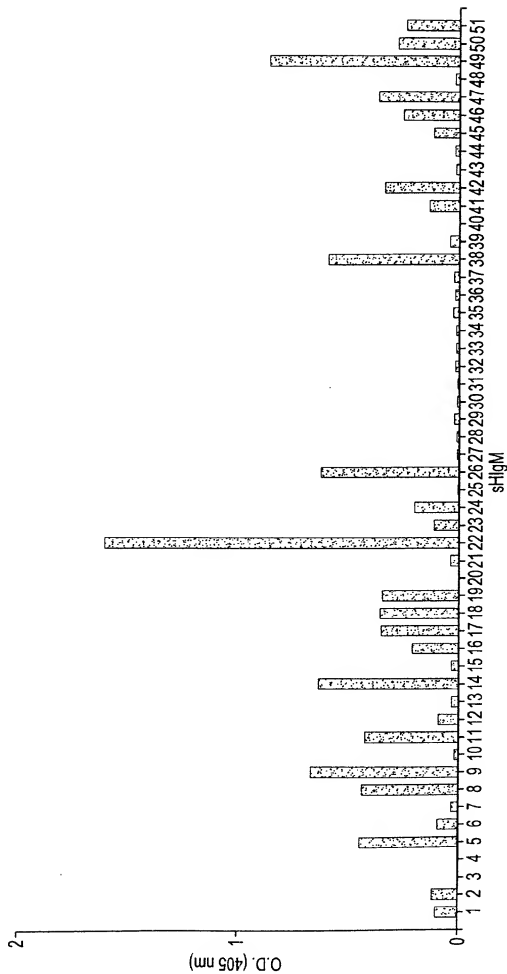
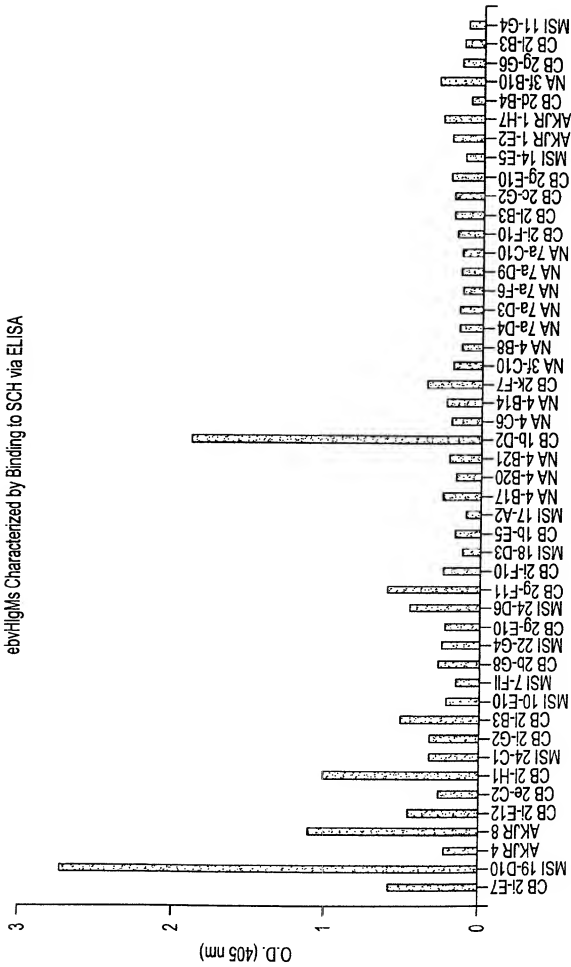


Figure 28

ebvHlgMs Characterized by Binding to SCH via ELISA



Clone Name

Figure 29

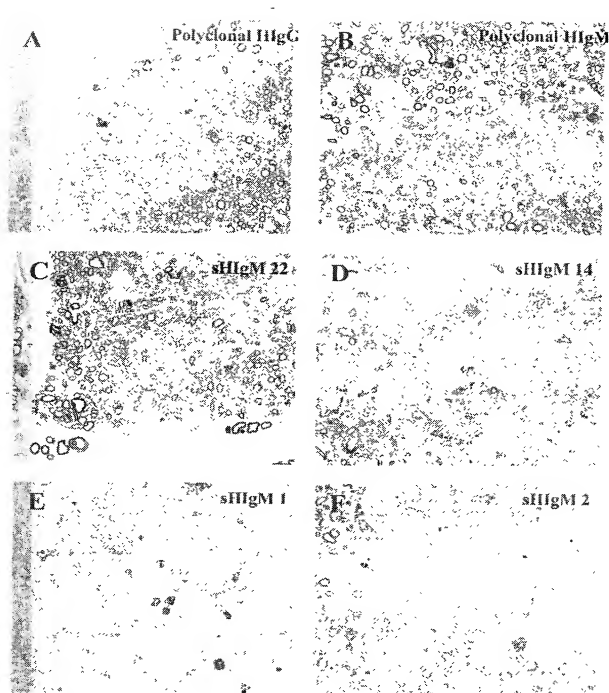


Figure 30

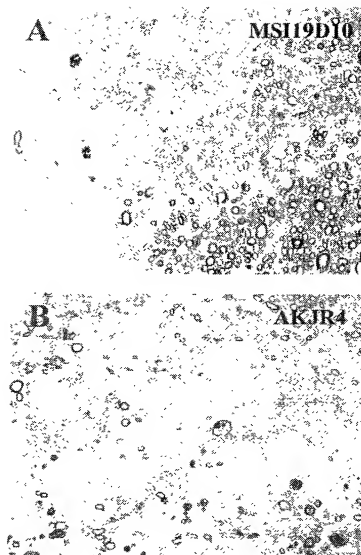


Figure 31

Lysolecithin Experiment 21 Day Experiment

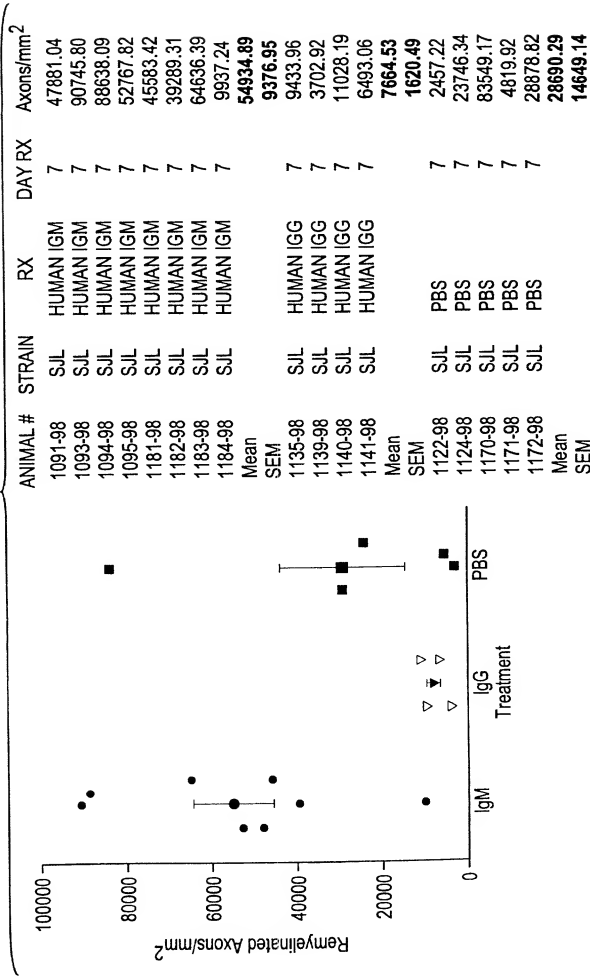


Figure 32

Hapten Elisa

- KLH
- TMA
- ▼— ARS
- ◇— PC
- TNP
- Phox
- NP
- FITC
- ▲— DNP

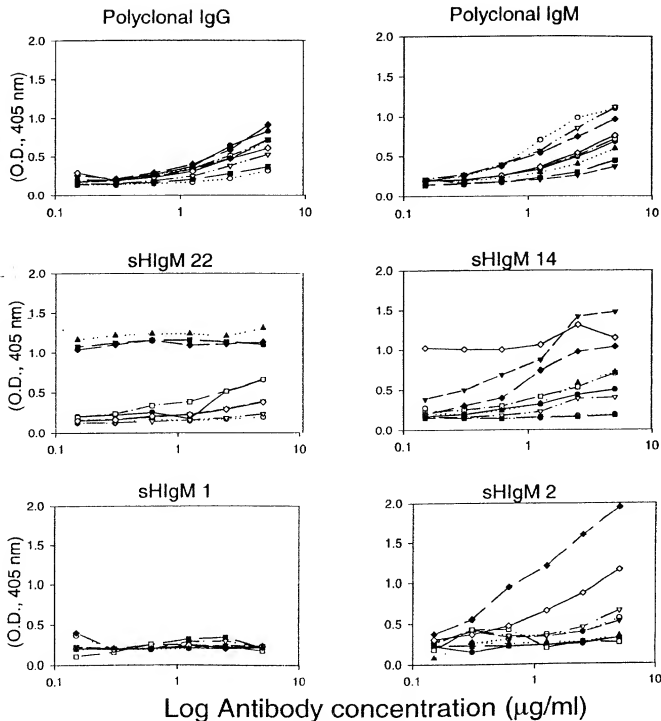


Figure 33

Protein Elisa

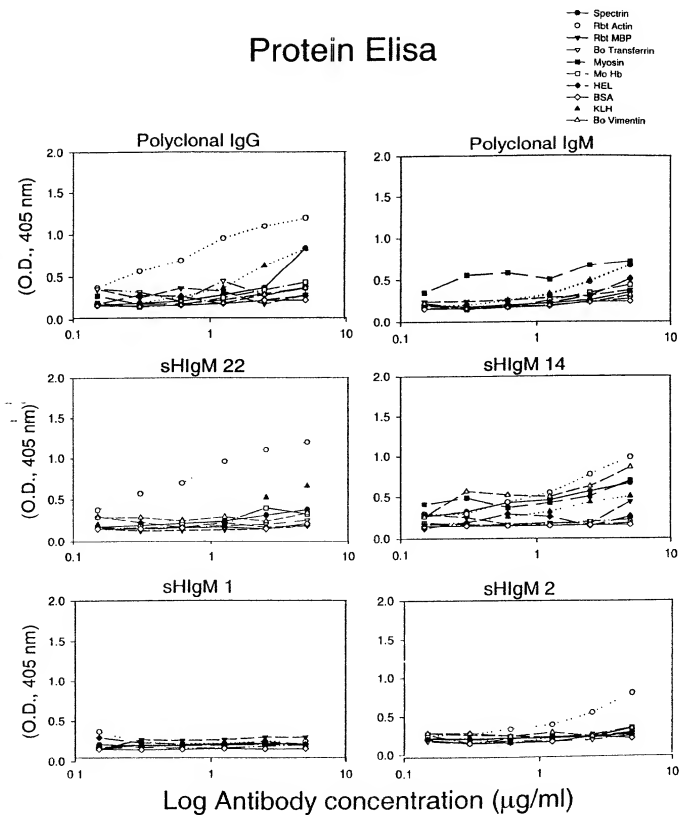


Figure 34

/FR1-----														
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<u>O</u>	<u>V</u>	<u>O</u>	<u>L</u>	<u>V</u>	<u>E</u>	<u>S</u>	<u>G</u>	<u>G</u>	<u>G</u>	<u>V</u>	<u>V</u>	<u>O</u>	<u>P</u>	<u>G</u>
CAG	GTG	CAG	CTG	GTG	GAG	TCT	GGG	GGA	GGC	GTG	GTC	CAG	CCT	GGG
Clone A sH-IgM.22 VH														
Clone B sH-IgM.22 VH														

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
<u>R</u>	<u>S</u>	<u>L</u>	<u>R</u>	<u>L</u>	<u>S</u>	<u>C</u>	<u>A</u>	<u>A</u>	<u>S</u>	<u>G</u>	<u>F</u>	<u>T</u>	<u>F</u>	<u>S</u>
AGG	TCC	CTG	AGA	CTC	TCC	TGT	GCA	GCC	TCT	GGA	TTC	ACC	TTC	AGT

/CDR1-----/FR2-----														
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
<u>S</u>	<u>S</u>	<u>G</u>	<u>M</u>	<u>H</u>	<u>W</u>	<u>V</u>	<u>R</u>	<u>Q</u>	<u>A</u>	<u>P</u>	<u>G</u>	<u>K</u>	<u>G</u>	<u>L</u>
AGC	TAT	GGC	ATG	CAC	TGG	GTC	CGC	CAG	GCT	CCA	GGC	AAG	GGG	CTG
C														
C														

/CDR2-----														
46	47	48	49	50	51	52	52A	53	54	55	56	57	58	59
<u>E</u>	<u>W</u>	<u>V</u>	<u>A</u>	<u>V(I)</u>	<u>I</u>	<u>S</u>	<u>Y</u>	<u>D</u>	<u>G</u>	<u>S</u>	<u>R</u>	<u>K</u>	<u>Y</u>	<u>Y</u>
GAG	TGG	GTG	GCA	GTT	ATA	TCA	TAT	GAT	GGA	AGT	AAT	AAA	TAC	TAT
A C T														
GG														
GG														

/FR3-----														
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
<u>A</u>	<u>D</u>	<u>S</u>	<u>V</u>	<u>K</u>	<u>G</u>	<u>R</u>	<u>F</u>	<u>T</u>	<u>I</u>	<u>S</u>	<u>R</u>	<u>D</u>	<u>N</u>	<u>S</u>
GCA	GAC	TCC	GTG	AAG	GGC	CGA	TTC	ACC	ATC	TCC	AGA	GAC	AAT	TCC
C														
C														

75	76	77	78	79	80	81	82	82A	82B	82C	83	84	85	86
<u>K</u>	<u>N</u>	<u>T</u>	<u>L</u>	<u>Y</u>	<u>L</u>	<u>O</u>	<u>M</u>	<u>N</u>	<u>S</u>	<u>L</u>	<u>T</u>	<u>A</u>	<u>D(E)</u>	<u>D</u>
AAG	AAC	ACG	CTG	TAT	CTG	CAA	ATG	AAC	AGC	CTG	AGA	GCT	GAG	GAC
T														
T C														
CG														
C														

/CDR3-----														
87	88	89	90	91	92	93	94	95	96	97	98	99	100	100A
<u>T</u>	<u>A</u>	<u>V</u>	<u>Y</u>	<u>Y</u>	<u>C</u>	<u>A</u>	<u>K</u>	<u>G</u>	<u>V</u>	<u>T</u>	<u>G</u>	<u>S</u>	<u>P</u>	<u>T</u>
ACG	GCT	GTG	TAT	TAC	TGT	GCG	AAA	GAG	GTG	ACT	GCT	ATT	CCC	TAC
T														
GA														
GA														
G														
G														
G														

/FR4-----														
100B101	102	103	104	105	106	107	108	109	110	111	112	113		
<u>L</u>	<u>D</u>	<u>Y</u>	<u>W</u>	<u>G</u>	<u>O</u>	<u>G</u>	<u>T</u>	<u>L</u>	<u>V</u>	<u>T</u>	<u>V</u>	<u>S</u>	<u>S</u>	
TTT	GAC	TAC	TGG	GGC	CAG	GGA	ACC	CTG	GTC	ACC	GTC	TCC	TCA	
C														
C														

Figure 35

/FR1-----																												
1	2	3	4	5	6	7	8	9	11	12	13	14	15	16														
<u>O</u>	<u>S</u>	<u>V</u>	<u>L</u>	<u>T</u>	<u>O</u>	<u>P</u>	<u>P</u>	<u>S</u>	<u>V</u>	<u>S</u>	<u>A</u>	<u>A</u>	<u>P</u>	<u>G</u>														
CAG	TCT	GTG	TTG	ACG	CAG	CCG	CCC	TCA	GTG	TCT	GCG	GCC	CCA	GGA														
Clone I sH-IgM.22 Vλ																												
					G		T				T																	
Clone II sH-IgM.22 Vλ																												
					G		T				T																	
-----/CDR1-----																												
17	18	19	20	21	22	23	24	25	26	27	27A	27B	28	29														
<u>O</u>	<u>K</u>	<u>V</u>	<u>T</u>	<u>I</u>	<u>S</u>	<u>C</u>	<u>S</u>	<u>G</u>	<u>S</u>	<u>S</u>	<u>S</u>	<u>N</u>	<u>I</u>	<u>G</u>														
CAG	AAG	GTC	ACC	ATC	TCC	TGC	TCT	GGA	AGC	AGC	TCC	AAC	ATT	GGG														
															C													
															C													
-----/FR2-----																												
30	31	32	33	34	35	36	37	38	39	40	41	42	43	44														
<u>N</u>	<u>N</u>	<u>F</u>	<u>V</u>	<u>S</u>	<u>W</u>	<u>Y</u>	<u>O</u>	<u>O</u>	<u>L</u>	<u>P</u>	<u>G</u>	<u>T</u>	<u>A</u>	<u>P</u>														
AAT	AAT	TAT	GTA	TCC	TGG	TAC	CAG	CAG	CTC	CCA	GGA	ACA	GCC	CCC														
															A													
															A													
-----/CDR2-----																												
45	46	47	48	49	50	51	52	53	54	55	56	57	58	59														
<u>R(K)</u>	<u>L</u>	<u>L</u>	<u>I</u>	<u>Y</u>	<u>D</u>	<u>I</u>	<u>T</u>	<u>K</u>	<u>R</u>	<u>P</u>	<u>S</u>	<u>G</u>	<u>I</u>	<u>P</u>														
AAA	CTC	CTC	ATT	TAT	GAC	AAT	AAT	AAG	CGA	CCC	TCA	GGG	ATT	CCT														
															G													
															T													
															C													
-----/FR3-----																												
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74														
<u>D</u>	<u>R</u>	<u>F</u>	<u>S</u>	<u>G</u>	<u>S</u>	<u>K</u>	<u>S</u>	<u>G</u>	<u>T</u>	<u>S</u>	<u>A</u>	<u>T</u>	<u>L</u>	<u>G</u>														
GAC	CGA	TTC	TCT	GGC	TCC	AAG	TCT	GGC	ACG	TCA	GCC	ACC	CTG	GGC														
-----/CDR3-----																												
75	76	77	78	79	80	81	82	83	84	85	86	87	88	89														
<u>I</u>	<u>T</u>	<u>G</u>	<u>L</u>	<u>O</u>	<u>T</u>	<u>G</u>	<u>D</u>	<u>E</u>	<u>A</u>	<u>D</u>	<u>Y</u>	<u>Y</u>	<u>C</u>	<u>G(E)</u>														
ATC	ACC	GGA	CTC	CAG	ACT	GGG	GAC	GAG	GCC	GAT	TAT	TAC	TGC	GGA														
															A													
-----/FR4-----																												
90	91	92	93	94	95	95A	95B	96	97	98	99	100	101	102														
<u>T</u>	<u>W</u>	<u>D</u>	<u>S</u>	<u>S</u>	<u>L</u>	<u>S</u>	<u>A</u>	<u>V</u>	<u>V</u>	<u>F</u>	<u>G</u>	<u>G</u>	<u>G</u>	<u>T</u>														
ACA	TGG	GAT	AGC	AGC	CTGT	GTG	GTA	TTC	GGC	GGA	GGG	ACC														
															AGT GC													
															AGT GC													
															G													
															G													
-----/CA-----																												
103	104	105	106	106A	107	108	109	110																				
<u>K</u>	<u>L</u>	<u>T</u>	<u>V</u>	<u>L</u>	<u>G</u>	<u>O</u>	<u>P</u>	<u>K</u>																				
AAG	CTG	ACC	GTC	CTA	GGT	CAG	CCC	AAG																				

Figure 36

Sequence of MSI 19-D10 Vh

FR1-----
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
 CAG GTG CAG CTG CAG GAG TCG GGC CCA GGA CTG GTG AAG CCT TCG GAG
 Q V Q L Q E S G P G L V K P S E

-----/CDR1
 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
 ACC CTG TCC CTC ACC TGC ACT GTC TCT GGT GGC TCC ATC AGT AGT
 T L S L T C T V S G G S I S S

-----/FR2-----
 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
 TAC TAC TGG AGC TGG ATC CGG CAG CCC CCA GGG AAG GGA CTG GAG
 Y Y W S W I R Q P P G K G L E

-----/CDR2-----
 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61
 TGG ATT GGG TAT ATC TAT TAC AGT GGG AGC ACC AAC TAC AAC CCC
 W I G Y I Y Y S G S T N Y N P

-----/FR3-----
 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76
 TCC CTC AAG AGT CGA GTC ACC ATA TCA GTA GAC ACG TCC AAG AAC
 S L K S R V T I S V D T S K N

-----/CDR3-----
 77 78 79 80 81 82 82A 82B 82C 83 84 85 86 87 88
 CAG TTC TCC CTG AAG CTG AGC TCT GTG ACC GCT GCG GAC ACG GCC
 Q F S L K L S S V T A A D T A

-----/CDR3-----
 89 90 91 92 93 94 95 96 97 98 99 100 100A100B100C
 GTG TAT TAC TGT GCG AGG TCG GCA CAG CAG CAG CTG GTA TAC TAC
 V Y Y C A R S A Q Q Q L V Y Y

-----/FR4-----/Cu-
 100D 101 102 103 104 105 106 107 108 109 110 111 112 113 114
 TTT GAC TAC TGG GGC CAG GGA ACC CTG GTC ACC GTC TCC TCA GGG
 F D Y W G Q G T L V T V S S G

Figure 37

Sequence of MSI 19-D10 V_K

FR 1-----

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
GAC	ATC	GTG	ATG	ACC	CAG	TCT	CCA	GAC	TCC	CTG	GCT	GTG	TCT	CTG
D	I	V	M	T	Q	S	P	D	S	L	A	V	S	L

-----/CDR1-----

16	17	18	19	20	21	22	23	24	25	26	27	27A	27B	27C
GGC	GAG	AGG	GCC	ACC	ATC	AAC	TGC	AAG	TCC	AGC	CAG	AGT	GTT	TTA
G	E	R	A	T	I	N	C	K	S	S	Q	S	V	L

-----/FR2-----

27D	27E	27F	28	29	30	31	32	33	34	35	36	37	38
TAC	AGC	TCC	AAC	AAT	AAG	AAC	TAC	TTA	GCT	TGG	TAC	CAG	CAG
Y	S	S	N	N	K	N	Y	L	A	W	Y	Q	Q

-----/CDR2-----

39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
AAA	CCA	GGA	CAG	CCT	CCT	AAG	CTG	CTC	ATT	TAC	TGG	GCA	TCT	ACC
K	P	G	Q	P	P	K	L	L	I	Y	W	A	S	T

-----/FR3-----

54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
CGG	GAA	TCC	GGG	GTC	CCT	GAC	CGA	TTC	AGT	GGC	AGC	GGG	TCT	GGG
R	E	S	G	V	P	D	R	F	S	G	S	G	S	G

69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
ACA	GAT	TTC	ACT	CTC	ACC	ATC	AGC	AGC	CTG	CAG	GCT	GAA	GAT	GTG
T	D	F	T	L	T	I	S	S	L	Q	A	E	D	V

-----/CDR3-----

-----/FR4

84	85	86	87	88	89	90	91	92	93	94	95	96	97	98
GCA	GTT	TAT	TAC	TGT	CAG	CAA	TAT	TAT	AGT	ACT	CCT	CTC	ACT	TTC
A	V	Y	Y	C	Q	Q	Y	Y	S	T	P	L	T	F

-----/Ck-----

99	100	101	102	103	104	105	106	107	108	109	110	111	112	113
GGC	CCT	GGG	ACC	AAA	GTG	GAT	ATC	AAA	CGA	ACT	GTG	GCT	GCA	CCA
G	P	G	T	K	V	D	I	K	R	T	V	A	A	P

Figure 38

Mixed Primary Glia
sH-IgM.22 Ca^{2+} response

- ratio cell #1
- ratio cell #2
- △ sH-IgM.22 ($3\mu\text{g/ml}$)
- ▲ Br-A23187 ($10\mu\text{M}$)

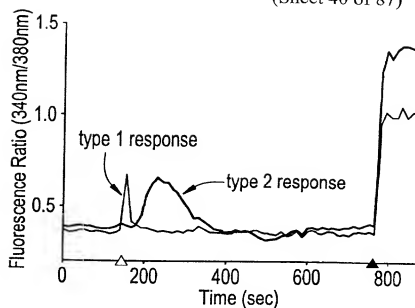


FIG. 39B

Mixed Primary Glia
SCH 94.03 Ca^{2+} response

- ratio cell #1
- ratio cell #2
- △ SCH 94.03 ($3\mu\text{g/ml}$)
- ▲ Br-A23187 ($10\mu\text{M}$)

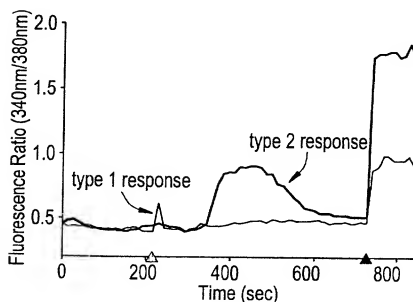


FIG. 39C

Mixed Primary Glia
CH 12/sH-IgM.14 Ca^{2+} response

- ratio cell #1
- ratio cell #2
- △ CH 12 ($3\mu\text{g/ml}$)
- △ sH-IgM.14 ($3\mu\text{g/ml}$)
- ▲ Br-A23187 ($10\mu\text{M}$)

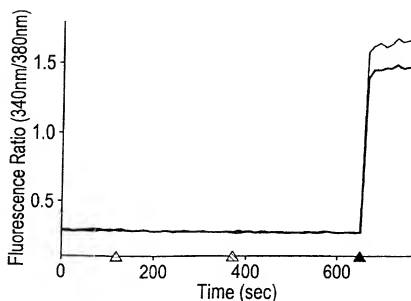


Figure 39

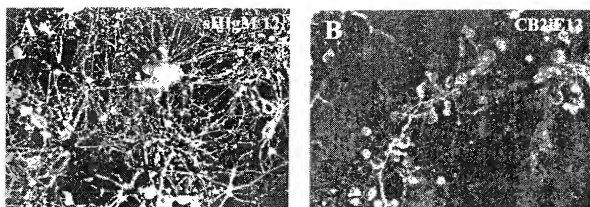


Figure 40

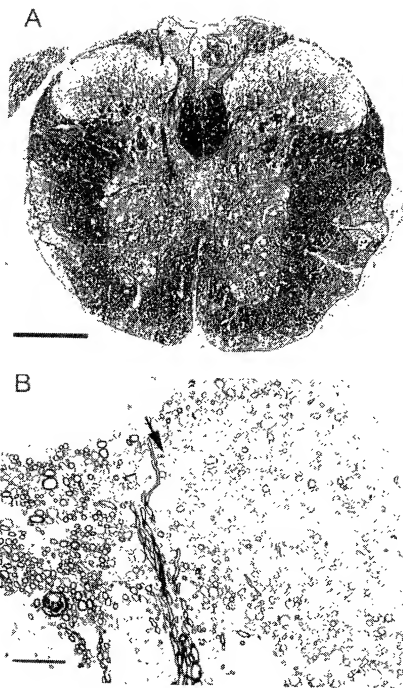


Figure 42

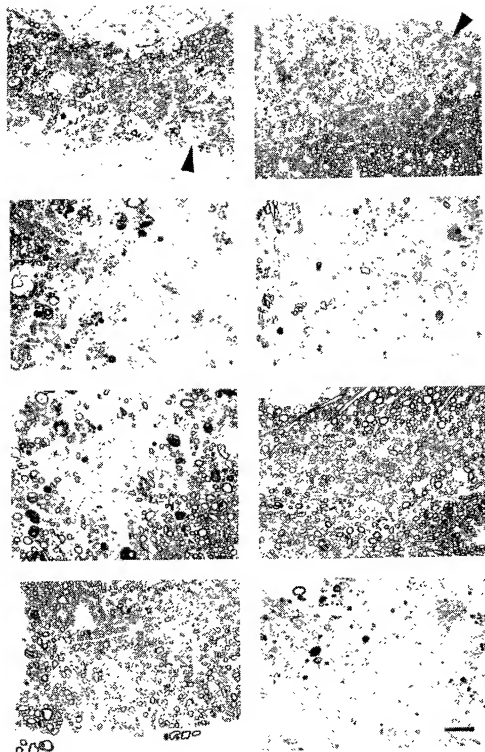


Figure 43

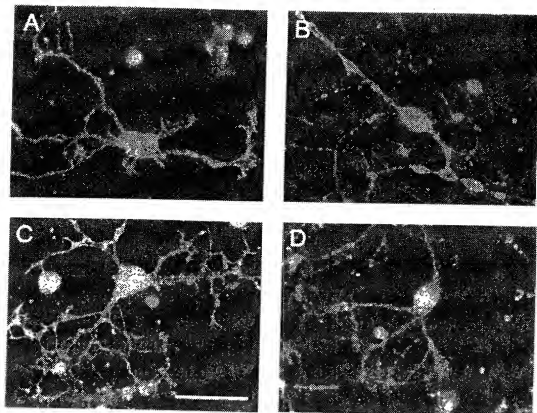


Figure 44

Translation of CB2b-G8 V_H:

```

----- F R I - I M G T -----
1           5           10           15           20
... ..AG ... GCC GTG GTC CAG CCT GGG AGG TCC CTG AGA CTC TCC

-----> CDR1 - IMGT <-----
          25           30           35           40
C A A S G F I F S S Y G M H W V R Q
TGT GCA GCG TCT GGA TTC ATT TTC AGT AGC TAT GGC ... .. ATG CAC TGG GTC CGC CAG

F R 2 - I M G T -----> CDR2 - IMGT <---
45           50           55           60           65
V P G K G L E W V A V I W Y D G S D K Y
GTT CCA GGC AAG GGG CTG GAG TGG GTG GCA GTT ATA TGG TAT GAT GGA AGT GAT AAA ... .. TAC

----- F R 3 - I M G T -----
          70           75           80           85
Y V D S V K G R F T I S R D N S K N T L Y
TAT GTA GAC TCC GTG AAG ... GGC CGA TTC ACC ATC TCC AGA GAC AAT TCT AAA AAC ACG CTC TAT

----->
          90           95           100           105           110
L Q M N S L R A E D T A V Y Y C A R D R S S
CTG CAA ATG AAC AGC CTG AGA GCC GAG GAC ACG GCT GTG TAT TAC TGT GCG AGA GAT CGC AGC AGT

CDR3 - IMGT
          115           120           125
G W Y W S C D S W G Q G T L V I V S S
GGC TGG TAC TGG TCC TGC GAC TCC TGG GGC CAG GGA ACC CTG GTC ATT GTC TCC TCA

```

Figure 45

```

F R 3 1 - I M G T -----
1          5          10          15          20
... . . . . . x x L ... L S G S P G Q S I T I S
... . . . . . TT XGC CTC ... CTG TCT GGG TCT CCT GGA CAG TCG ATC ACC ATC TCC

-----> _____ <-----
                CDR1 - IMGT

C   T   G   T   S   S   D   V   G   G   Y   N   Y           35           V   S   W   Y   Q   Q
CTG ACT GGA ACC AGC AGT GAC GTT GGT GGT TAT AAC TAT ... .. GTC TCC TGG TAC CAA CAG

F R 2 - I M G T -----> _____ CDR2 - IMGT _____<---
        45          50          55          60          65          D
H P G K A P K L M I Y D V S
CAC CCA GGC AAA GCC CCC AAA CTC ATG ATT TAT GAT GTC AGT ... .. D

----- F R 3 - I M G T -----
70          75          80          85
R P S G V S N R R F S G S K S G G N T A S
CGG CCC TCA GGG GTT TCT ... AAT CGC TTC TCT GGC TCC AAG ... .. TCT GGC AAC ACA GCC TCC

-----> _____ CDR3 - IMGT
90          95          100          105          110
L T I S G L Q A E D E A D Y C S S Y T S S
CTG ACC ATC TCT GGG CTC CAG GCT GAG GAC GAG GCT GAT YAT TAC TGC AGC TCA TAT ACA AGC AGC

-----> _____
115          120          125
S V V F G G G T K L T V L G Q P K A A P S
AGC TCT GTG GTA TTC GGC GGA GGG ACC AAG CTG ACC GTC CTA GGT CAG CCC AAG GCT GCC CCC TCG

V T L F P P P x
GTC ACT CTG TTC CCG CCT CCA AXG G

```

Figure 46

DHFR amplification of 94.03k

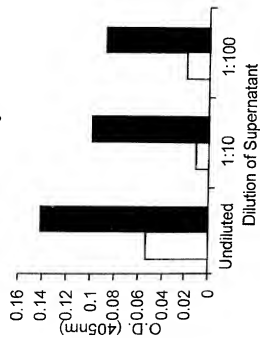
4 5

0.2 51.2 0.2 51.2 Neg Pos



Clone #4 Kappa Chain Elisa

□ 0.2 ug/ml methotrexate
 ■ 51.2 ug/ml methotrexate



Clone #5 Kappa Chain Elisa

□ 0.2 ug/ml methotrexate
 ■ 51.2 ug/ml methotrexate

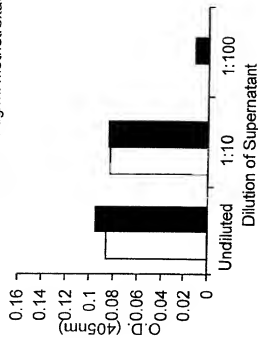


Figure 47

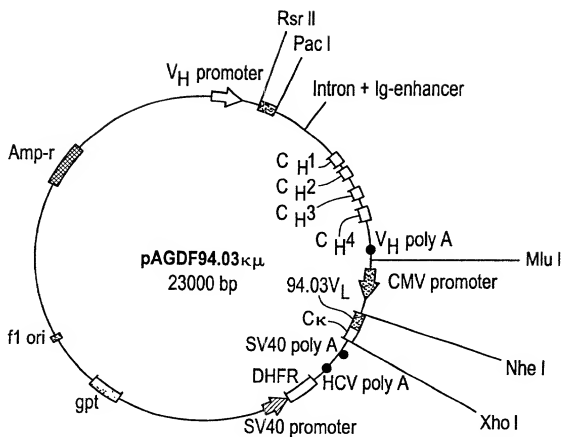


FIG. 48B

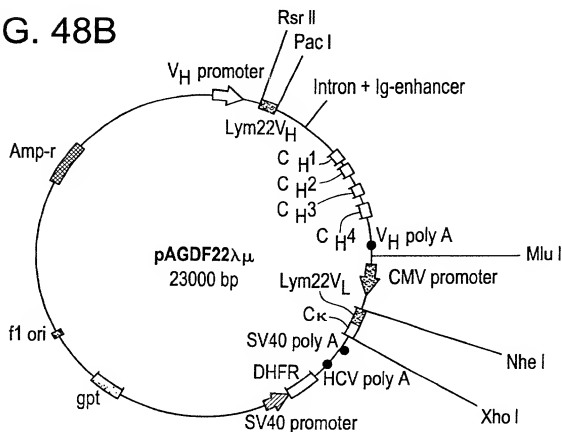


Figure 48

Postnatal Rat Cerebellum as Substate



Mouse 94.03

Humanized 94.03
clone 1Humanized 94.03
clone 2

Figure 49

FIG. 50A

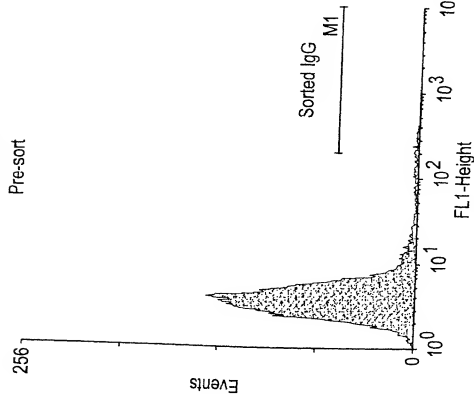


FIG. 50B

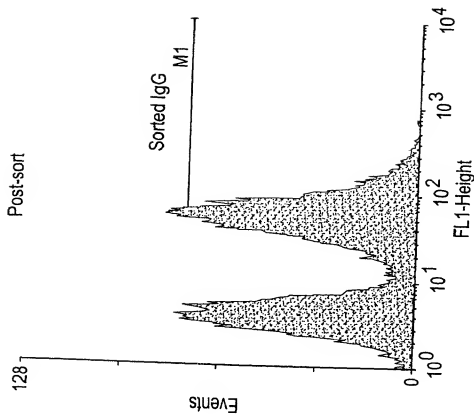
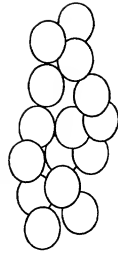


Figure 50

Sequencing of 94.03 IgG

94.03 IgG Cloned Cells



mRNA AAAAAAAA



94.03 primer



cDNA

TTTTTT



IgG1 primer



PCR

ATGCAGTTACATGCATACCTGAACATGCATGCTTTCCAG

Sequence with 94.03 V region plus IgG1

Figure S1

09 V_H Sequence with translation:

```

<----- F R 1 - I M G T -----
1      5      10      15      20
Q D H L Q Q S G P E L V K P G A F V K I S
CAG GAT CAC CTG CAG CAG TCT GGA CCT ...GAG CTG GTG AAG CCT GGG GCT TTT GTG AAG ATA TCC

----->
                CDR1 - IMGT
25      30      35      40
C K A S G Y T F T N Y D L N W V R Q
TGC AAG GCT TCT GGT TAC ACC TTC ACA AAC TAC GAT ... . . . .CTA AAC TGG GTG AGG CAG

F R 2 - I M G T ----->
                CDR2 - IMGT
45      50      55      60      65
R P G Q G L E W I G W I Y P G N D N T K
AGG CCT GGA CAG GGC CTT GAG TGG ATT GGA TGG ATT TAT CCT GGA AAT GAT AAT ACT ... . . . .AAG

----- F R 3 - I M G T -----
70      75      80      85
Y N E K F K G L A S L T A D K S S T A Y
TAC AAT GAG AAG TTC AAG ...GGC CTG GCC TCA CTG ACT GCA GAC AAG TCC TCC ACC ACA GCC TAC

----->
90      95      100      105      110
L H L S S L T S E S S A V Y F C A R G L P R
TTG CAT CTC AGC AGC CTG ACT TCT GAG AGC TCT GCA GTC TAT TTC TGT GCA AGA GGG TTA CCT AGG

CDR3 - IMGT
115      120
G W Y F D V W G A G T T V T V S S A
GGC TGG TAC TTC GAT GTC TGG GGC GCA GGG ACC ACG GTC ACC GTC TCC TCA GCT

```

Figure 52

Translation of 09 kappa light chain 1:

```

<----- F R I - I M G T -----
1  N I V M T Q S P K S M S 10 15 20
AAC ATT GTA ATG ACC CAA TCT CCC AAA TCC ATG TCC ATG TCA GTA GGA GAG AGG GTC ACC TTG ACC

----->
25  C K A S E N V V T Y 35
TGC AAG GCC AGT GAG AAT GTG GTT ACT TAT ... GTT TCC TGG TAT CAA CAG

F R 2 - I M G T ----->
45  K P E Q S P K L L I Y G A S 55 65
AAA CCA GAG CAG TCT CCT CTT AAA CTG ATA TAC GGG GCA TCC ... AAC

----->
70  R Y T G V P 75 80 85
CGG TAC ACT GGG GTC CCC ... GAT CGC TTC ACA GGC AGT GGA ... TCT GCA ACA GAT TTC ACT

----->
90  L T I S S V Q A E D L A D Y H C Q G Y S Y 105 110
CTG ACC ATC AGC AGT GTG CAG GCT GRA GAC CTT GCA GAT TAT CAC TGT GGA CAG GGT TAC AGC TAT

----->
115 P Y T F G G
CGG TAC AGG TTC GGA GGG GGG

```

Figure 53

Translation of 09 kappa light chain 2:

```

<----- F R 1 - I M G T -----
1  D V Q I T Q S P S Y L A A 15 20
   GAT GTC CAG ATA ACC CAG TCT CCA TCT TAT CTT GCT GCA TTT CCT GGA GAA ACC ATT ACT ATT AAT

----->
      CDR1 - INGT 35
25  C R A S K S I S K Y
   TGT AGG GCA AGT AAG AGC ATT AGT AAA TAT ... .. TTA GCC TGG TAT CAA GAG

      CDR2 - INGT 60 65
45  R P G K T N K L L I Y S G S
   AGA CCT GGA AAA ACT AAT AAG CTT CTT ATC TAC TCT GGA TCC ... .. ACT

      CDR3 - INGT 105 110
70  L Q S G I P S R F S G S G
   TTG CAA TCT GGA ATT CCA ... TCA AGG TTC AGT GGC AGT GGA ... TCT GGT ACA GAT TTC ACT

      CDR3 - INGT 105 110
90  L T I S S L E P E D F A M Y Y C Q Q H N E Y
   CTC ACC ATC AGT AGC CTG GAG CCT GAA GAT TTT GCA ATG TAT TAC TGT CAA CAG CAT AAT GAA TAC

----->
      CDR3 - INGT 115
115 P Y T F G G
   CCG TAT ACG TTC GGA GGG GGG

```

Figure 54

Translation of AKJR 4 Heavy Chain:

```

<----- F R I - I M G T -----
1  E V Q L L E S G G 10 G L V Q P 15 G G S L R L S
   GAG GTG CAA CTA TTG GAA TCT GGG GGA ... GGC TTG GTA CAG CCT GGG GGG TCC CTG AGA CTC TCC
----->
                                     CDR1 - IMGT
35
25 C A A S G F S F I D Y A 35 M S W V R Q
   TGT GCA GCC TCT GGA TTC AGC TTT ATC GAC TAT GCC ... ATG AGC TGG GTC CGC CAG
F R 2 - I M G T ----->
                                     CDR2 - IMGT
60
45 A P G K G L E W V S L S G D S G S S 65 Y
   GCT CCA GGG AAG GGA CTG GAG TGG GTC TCA AGT CTT AGT GGT GAT AGT GGT TCA ... TAT
----->
                                     F R 3 - I M G T
70
Y A D S V K 75 G R F T I S R D N S K S T V F
   TAT GCA GAC TCC GTG AAG ... GGC CGA TTC ACC ATC TCC AGA GAC AAT TCC AAG AGC ACG GTG TTT
----->
                                     CDR3 - IMGT
100
90 L Q L S S L R 95 T A E D T A I Y Y C A Q E T G P
   CTG CAA CTG AGC AGC CTG AGA GCC GAG GAC ACG GCC ATA TAT TAC TGT GCG CAG ACC GGT CCC
----->
115
Q R R W Q G 120 T L V T V S S G S A S A P T L
   CAG CGT GGC TGG GGC CAG GGA ACC CTG GTC ACC CTG TCC TCA GGG AGT GCA TCC GCC CCA ACC CTT

```

Figure 55

Translation of AKJR 4 Kappa Light Chain:

```

<----- F R 1 - I M G T -----
1 5 10 15 20
D I Q M T Q S P S T L S A S V G D R V T I T
GAC ATC CAG ATG ACC CAG TCT CCT TCC ACC CTG TCT GCA TCT GTA GGG GAC AGA GTC ACC ATC ACT
----->
25 30 CDR1 - IMGT 35 40
C R A S Q S I S S W L A W Y Q Q
TGC CGG GCC AGT AGT ATT AGT AGC TGG ... TTG GCC TGG TAT CAG CAG
F R 2 - I M G T -----> CDR2 - IMGT 60 65
45 50 55
K P G K A P K L L I Y K A F N
AAA CCA GGG AAA GCC CCT AAA CTC CTG ATC TAT AAG GCG TTT ... AAT
----->
70 75 80 85
L E S G V P S R F R G S G S G T E F T
TTA GAA AGT GGG GTC CCA ... TCA AGG TTC AGA GGC AGT GGC ... TCT GGG ACA GAA TTC ACT
----->
90 95 100 105 CDR3 - IMGT 110
L T I S S L Q P D D S A T Y Y C Q Y S S Y
CTC ACC ATC AGC AGC CTG CAG CCT GAT GAT TCT GCA ACT TAT TAC TGC CAG CAG TAT AGT AGT TAC
----->
115 120 125 130
P L T F G G G T K V D I K R T V A A P S V F
CCC CTC ACT TTC GGC GGA GGG ACC AAG GTG GAC ATT AAA CGA ACT GTG GCT GCA CCA TCT GTC TTC

```

Figure 56

Translation of CB2i-E12 Heavy Chain:

```

<----- F R 1 - I M G T ----->
1      5      10      15      20
...      x R      x x x K x E A S V K V S
...      .CC AGG ... XAG XAX AXG AAA XCG GAG GCC TCA GTG AAG GTC TCC
----->
25      30      35      40
C K A S G Y T F T G Y Y M H W V R Q
TGC AAG GCT TCT GGA TAC ACC TTC ACC GGC TAC TAT ... ATG CAC TGG GTG CGA CAG
F R 2 - I M G T ----->
45      50      55      60      65
A P G Q G L E W M G W I N P N S G G T N
GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA TGG ATC AAC CCT AAC AGT GGT GGC ACA ... AAC
----->
70      75      80      85
Y A Q K F Q G R V T M T R D T S I S T A Y
TAT GCA CAG AAG TTT CAG ... GGC AGG GTC ACC ATG ACC AGG GAC ACG TCC ATC AGC ACA GCC TAC
----->
90      95      100      105      110
M E L S R L R S D D T A V Y Y C A R D R S Y
ATG GAG CTG AGC AGG CTG AGA TCT GAC GAC GAC ACG GCC GTG TAT TAC TGT GCG AGA GAT CGA TCG TAT
CDR3 - IMGT
115
P G R N Y F D Y W G Q G T L V T
CCG GGA AGG AAC TAC TTT GAC TAC TGG GGC CAG GGA ACC CTG GTC ACC

```

Figure 57

Translation of CB2i-E12 kappa chain:

```

<----- F R I - I M G T ----->
1  E I V L T Q S P G T L S L S P G E R A T L S
   GAA ATT GTG TTG ACG CAG TCT CCA GGC ACC CTG TCT TTG TCT CCA GGG GAA AGA GCC ACC CTC TCC
----->
25  C R A S Q S V S S S Y 35  CDR1 - IMGT 40  L A W Y Q Q
    TGC AGG GCC AGT GGT AGC AGC AGC TAC ... TTA GCC TGG TAC CAG CAG
F R 2 - I M G T ----->
45  K P G Q A P R L L I Y G A S 55  CDR2 - IMGT 60  S
    AAA CCT GGC CAG GCT CCC AGG CTC ATC TAT GGT GCA TCC ... AGC
----->
70  R A T G I P D R F S G S G 80  F R 3 - I M G T -----
    AGG GCC ACT GGC ATC CCA ... GAC AGG TTC AGT GGC AGT GGG ... TCT GGG ACA GAC TTC ACT
----->
90  L T I S R L E P E D F A V Y Y C Q Q Y G S S
    CTC ACC ATC AGC AGA CTG GAG CCT GAA GAT TTT GCA GTG TAT TAC TGT CAG CAG TAT GGT AGC TCT
----->
115 H T F G Q G
     CAC ACT TTT GGC CAG GGG

```

Figure 58

Translation of CB2i-E7 Heavy Chain:

```

<----- F R 1 - I M G T -----
1      5      10      15      20
... .. x      G L V K P G G S L R L S
... .. .GA ... GGC TTG GTC AAG CCT GGA GGG TCC CTG AGA CTC TCC
----->

25      30      CDR1 - IMGT
C A A S G F T F S D Y Y      35      40
TGT GCA GCC TCT GGA TTC ACC TTC AGT GAC TAC TAC ... .. M S W I R Q
F R 2 - I M G T ----->

45      50      55      CDR2 - IMGT      60      65
A P G K G L E W V S Y I S S S S Y T N
GCT CCA GGG AAG GGG CTG GAG TGG GTT TCA TAC ATT AGT AGT AGT TAC ACA ... AAC
----->

70      75      80      85
Y A D S V K G R F T I S R D N A K N S L Y
TAC GCA GAC TCT GTG AAG ... GGC CGA TTC ACC ATC TCC AGA GAC AAC GCC AAG AAC TCA CTG TAT
----->

90      95      100      105      110
L Q M N S L R A E D T A V Y Y C A A R D R S S
CTG CAA ATG AAC AGC CTG AGA GCC GAG GAC ACG GCT GTG TAT TAC TGT GCG AGA GAT CGG TCG AGC
CDR3 - IMGT

115      120      125
S S W Y Y Y Y G M D V W G Q G
AGC AGC TGG TAC TAC TAC TAC GGT ATG GAC GTC TGG GGC CAA GGG

```

Figure 59

Translation of CB2i-E7 kappa Chain:

```

<----- F R I - I M G T ----->
1 5 10 15 20
D I Q M T Q S P S L S A S V G D R V T I T
GAC ATC CAG ATG ACC CAG TCT CCA TCC TCC CTG TCT GCA TCT GTA GGA GAC AGA GTC ACC ATC ACT

----->
25 30 35 40
C R A S Q G I S N Y L A W Y Q Q
TGC CGG GCG AGT CAG GGC ATT AGC AAT TAT ... ... TTA GCC TGG TAT CAG CAG

F R 2 - I M G T ----->
45 50 55 60 65
K P G K V P K L I Y A A S T
AAA CCA GGG AAA GTT CCT AAG CTC CTG ATC TAT GCT GCA TCC ... ... ACT

----- F R 3 - I M G T ----->
70 75 80 85
L Q S G V P S R F N G S G S G T D F T
TTG CAA TCA GGG GTC CCA ... TCT CGG TTC AAT GGC AGT GGA ... TCT GGG ACA GAT TTC ACT

----->
90 95 100 105 110
L T I S S L Q P E D V A T Y Y C Q K Y N K C
CTC ACC ATC AGC AGC CTG CAA CCT GAA GAT GTT GCA ACT TAT TAC TGT CAA AAG TAT AAC AAG TGC

-----
115
P S H F R G R D
CCC TCT CAC TTT CGG GGG AGG GAC

```

Figure 60

Translation Of MSI 19-E5 Light Chain

```

<----- F R I - I M G T ----->
      5      10      15      20
D I A M T Q S P D S L A V S L G E R A T I N
GAC ATC GGG ATG ACC CAG TCT CCA GAC TCC CTG GCA GTG TCT CTG GGC GAG AGG GCC ACC ATC AAC

----->
      CDR1 - INGT
      25      30      35      40
C K S S R S V L F S S N N N Y L A W Y Q Q
TGC AAG TCC AGC CGG AGT GTT TTA TTC AGC TCC AAC AAT AAC AAC TAC TTA GCT TGG TAC CAG CAG

F R 2 - I M G T ----->
      45      50      55      60      65
K P G Q P P K L L I Y W A S
AAA CCA GGA CAG CCT CCT AAG CTA CTC ATT TAC TGG GCA TCT ... ACC

      CDR2 - INGT
      F R 3 - I M G T -----

      70      75      80      85
R E S G V P D R F S G S G S G T D F T
CGG GAA TCC GGG GTC CCT ... GAC CGA TTC AGT GGC AGC GGG ... TCT GGG ACA GAT TTC ACT

      CDR3 - I
      90      95      100      105      110
L T I S S L Q A E D V A V Y Y C Q Q Y Y S T
CTC ACC ATC AGC AGC CTG CAG GCT GAA GAT CTG GCA GTT TAT TAC TGT CAG CAA TAT TAT AGT ACT

MGT
P I T F G
CCA ATC ACC TTC GGC

```

Figure 61

Translation of 04 kappa chain 2:

```

<----- F R I - I M G T -----
1  D I V M T Q S H K F M S T S V G D R V S I T 20
   GAC ATC GTA ATG ACG CAG TCT CAC AAA TTC ATG TCC ACT TCA GTA GGA GAC AGG GTC ATC ATC ACC
----->
      25          30          35          40
   C K A S Q D V S T A          V A W Y Q Q
   TGC AAG GCC AGT CAG GAT GTG AGT ACT GCT ... ... GTA GCC TGG TAT CAA CAG
F R 2 - I M G T ----->
      45          50          55          60
   K P G Q S P K L L I Y S A S          Y
   AAA CCA GGA CAA TCT CCT AAA CTA CTG ATT TAC TCG GCA TCC ... ... TAC
----->
      70          75          80          85
   R Y T G V P D R F T G S G          S G T D F T
   CCG TAC ACT GGA CTC CCT ... GAT CGC TTC ACT GGC AGT GGA ... ... TCT GGG ACG GAT TTC ACT
----->
      90          95          100          105          110
   F T I S S V Q A E D L A V Y Y C Q Q H Y T T
   TTC ACC ATC AGC AGT GTG CAG GCT GAA GAC CTG GCA GTT TAT TAC TGT CAG CAA CAT TAT ACT ACT
----->
      115
   P L T F G A G
   CCG CTC ACG TTC GGT GCT GGG

```

Figure 62

FIG. 63A

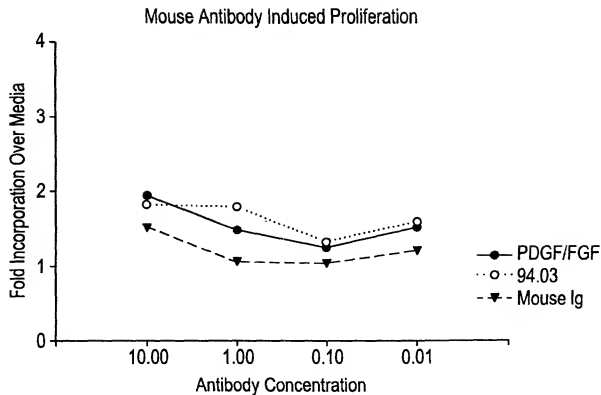


FIG. 63B

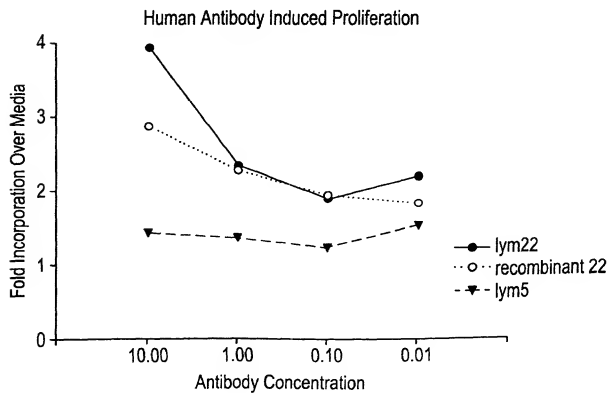


Figure 63

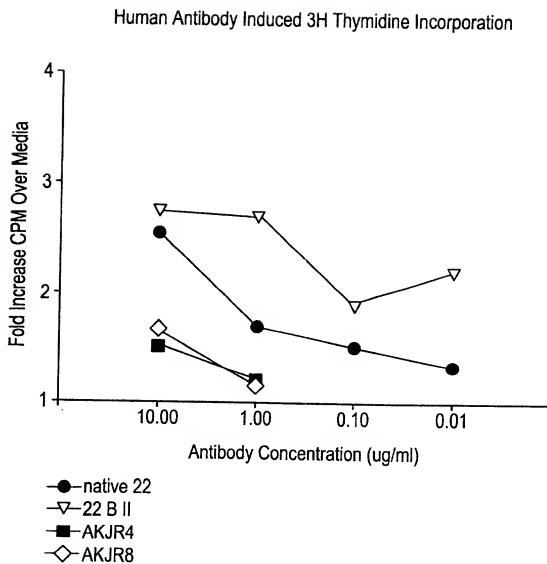


Figure 64

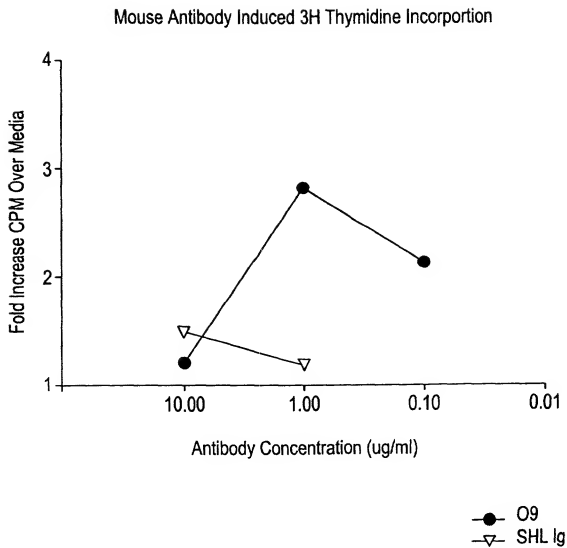
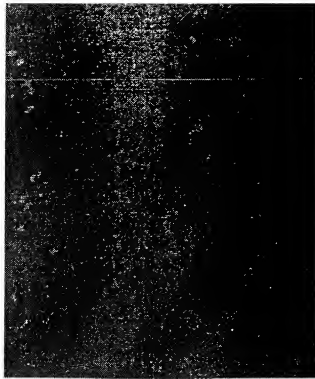


Figure 65

Recombinant sHlgM 22 Binds
Specifically to White Matter

sHlgM 22



rHlgM 22



Figure 66

TRANSLATION OF O4 KAPPA CHAIN

```

<----- F R I - I M G T -----
1  D I V M T Q S H K F M S T S V G D R V S I T      20
   GAC ATC GTA ATG ACG CAG TCT CAC AAA TTC ATG TCC ACT TCA GTA GGA GAC AGG GTC AGC ATC ACC
----->
      CDR1 - IMGT      30      35      40
      C K A S Q D V S T A      V A W Y Q Q
      TGC AAG GCC AGT CAG GAT GTG AGT ACT GCT ... .. ... GTA GCC TGG TAT CAA CAG
      F R 2 - I M G T ----->
      CDR2 - IMGT      55      60      65
      K P G Q S P K L L I Y S A S      Y
      AAA CCA GGA CAA TCT CCT AAA CTA CTG ATT TAC TCG GCA TCC ... .. ... TAC
----->
      F R 3 - I M G T -----
      R Y T G V P D R F T G S G      85
      CGG TAC ACT GGA GTC CCT ... GAT CGC TTC ACT GGC AGT GGA ... ... TCT GGG ACG GAT TTC ACT
----->
      CDR3 - IMGT      105      110
      F T I S S V Q A E D L A V Y Y C Q Q H Y T T
      TTC ACC ATC AGC AGT GTG CAG GCT GAA GAC CTG GCA GTT TAT TAC TGT CAG CAA CAT TAT ACT ACT
----->
      115      120
      P L T F G A G T R L E L K R
      CCG CTC ACG TTC GGT GGT GGG ACC AGG CTG GAG CTG AAA CGG

```

Figure 67

TRANSLATION OF 01 KAPPA CHAIN

```

<----- F R I - I M G T -----
1  D V Q I T Q S P S Y L A A S P G E T I T I N      20
   GAT GTC CAG ATA ACC CAG TCT CCA TCT TAT CTT GCT GCA TCT CCT GGA GAA ACC ATT ACT ATT AAT

----->
      CDR1 - IMGT      35      40
      C R A S K S I S K Y      L A W Y Q E
      TGC AGS GCA AGT AAG AGC ATT AGC AAA TAT ... ... TTA GCC TGG TAT CAA GAG

F R 2 - I M G T ----->
      CDR2 - IMGT      60      65
      K P G K T N K L L I Y S G S      T
      AAA CCT GGG AAA ACT AAT AAG CTT ATC TAC TCT GGA TCC ... ... ACT

----- F R 3 - I M G T -----
      L Q S G I P S R F S G S G      85
      TTG CAA TCT GGA ATT CCA ... TCA AGG TTC AGT GGC AGT GGA ... TCT GGT ACA GAT TTC ACT

----->
      CDR3 - IMGT      105      110
      L T I S S L E P E D F A M Y Y C Q Q H N E Y
      CTC ACC ATC AGT AGC CTG GAG CCT GAA GAT TTT GCA ATG TAT TAC TGT CAA CAG CAT AAT GAA TAC

      P Y T F G G G T K L E I K R      120
      CCG TAC ACG TTC GGA GGG GGG ACC AAG CTG GAA ATA AAA CGG
  
```

Figure 68

TRANSLATION OF HNK-1 KAPPA CHAIN

```

<----- F R 1 - I M G T -----
1      5      10      15      20
D I Q M T Q S P S L S A S L G E R V S L T
GAC ATC CAG ATG ACC CAG TCT CCA TCC TTA TCT GGC TCT CTG GGA GAA AGA GTC AGT CTC ACT

----->
25      30      35      40
C R A S Q D I G S S L N W L Q Q
TGT CGG GCA AGT CAG GAC ATT GGT AGT AGC ... ... TTA AAC TGG CTT CAG CAG

F R 2 - I M G T ----->
45      50      55      60      65
E P D G T I K R L I Y A T S
GAA CCA GAT GGA ACT ATT AAA CGC CTG ATC TAC GCC ACA TCC ... ... AGT

----- CDR2 - IMGT -----
70      75      80      85
L D S G V P K R F S G S R S G S D Y S
TTA GAT TCT GGT GTG CCC ... AAA AGG TTC AGT GGC AGT AGG ... TCT GGG TCA GAT TAT TCT

----->
90      95      100      105      110
L T I S S L E S E D F V D Y Y C L Q Y A S F
CTC ACC ATC AGC AGC CTT GAG TCT GAA GAT TTT GTA GAC TAT TAC TGT CTA CAA TAT GCT AGT TTT

----- CDR3 - IMGT -----
115      120
P Y T F G G G T K L E I K R
CGG TAC ACG TTC GGA GGG GGG ACC AAG CTG GAA ATA AAA CGG

```

Figure 69

1199-1-005CIP2

TRANSLATION OF A2B5 KAPPA CHAIN

```

<-----F R 1 - I M G T-----
1 5 10 15 20
Q I V L T Q S P A I M S A S P G E K V T I S
CAA ATT GTT CTC ACC CAG TCT CCA GCA ATC ATG TCT GCA TCT CCA GGG GAG AAG GTC ACC ATA TCC

----->
25 30 35 40
C S A S S S V S Y
TGC AGT GCC AGC TCA AGT GTA AGT TAC ... .. ATG TAC TGG TAC CAG CAG

F R 2 - I M G T----->
45 50 55 60 65
K P G S S P K P W I Y R T S
AAG CCA GGA TCC TCC CCC AAA CCC TGG ATT TAT CGC ACA TCC ... .. AAC

----->
70 75 80 85
L A S G V P A R F S G S G
CTG GCT TCT GGA GTC CCT ... GCT CGC TTC AGT GGC AGT GGG ... TCT GGG ACC TCT TAC TCT

----->
90 95 100 105 110
L T I S S M E A E D A A T Y Y C Q Q Y H S Y
CTC ACA ATC AGC AGC ATG GAG GCT GAA GAT GCT GCC ACT TAT TAC TGC CAG CAG TAT CAT AGT TAC

----->
115 120
P L T F G A G T K L E L K R
CCA CTC AGG TTC GGT GCT GGG ACC AAG CTG GAG CTG AAA CGG

```

Figure 70

LYM 46 Heavy Chain Sequence:

FR 1														
E	V	Q	L	V	E	S	G	G	G	L	V	Q	P	G
GAG	GTG	CAG	CTG	GTG	GAG	TCT	GGG	GGA	GGC	TTG	GTC	CAG	CCT	GGG
CDR1														
G	S	L	R	L	S	C	A	A	S	G	F	T	F	S
GGG	TCC	CTG	AGA	CTC	TCC	TGT	GCA	GCC	TCT	GGA	TTC	ACC	TTT	AGT
FR 2														
S	Y	W	M	T	W	V	R	Q	A	P	G	K	G	L
AGC	TAT	TGG	ATG	ACC	TGG	GTC	CGC	CAG	GCT	CCA	GGG	AAG	GGG	CTG
CDR2														
E	W	V	A	N	I	K	K	D	G	S	E	K	S	Y
GAG	TGG	GTG	GCC	AAC	ATA	AAG	AAA	GAT	GGA	AGT	GAG	AAA	TCC	TAT
FR3														
V	D	S	V	K	G	R	F	T	T	S	R	D	N	A
GTG	GAC	TCT	GTG	AAG	GGC	CGA	TTC	ACC	ACC	TCC	AGA	GAC	AAC	GCC
CDR3														
K	N	S	L	Y	L	Q	M	N	S	L	R	A	E	D
AAG	AAC	TCA	CTG	TAT	CTG	CAA	ATG	AAC	AGC	CTG	AGA	GCC	GAG	GAC
CDR3														
T	A	V	Y	Y	C	A	R	P	N	C	G	G	D	C
ACG	GCT	GTG	TAT	TAC	TGT	GCG	AGA	CCC	AAT	TGT	GGT	GGT	GAC	TGC
CDR3														
Y	L	P	W	Y	F	D	L	W	G	R	G	T	L	V
TAT	TTA	CCA	TGG	TAC	TTC	GAT	CTC	TGG	GGC	CGT	GGC	ACC	CTG	GTC
CDR3														
T	V	S	S											
ACT	GTC	TCC	TCA											

Figure 71

LYM 46 KAPPA LIGHT CHAIN SEQUENCE:

```

<----- F R 1 - I M G T -----
1      5      10      15      20
D I V M T Q S P D S L A V S L G E R A T I N
GAC ATC GTG ATG ACC CAG TCT CCA GAC TCC CTG GCT GTG TCT CTG GGC GAG AGG GCC ACC ATC AAC

----->
25      30      35      40
C K S S Q S V L Y S S N N K N Y L A W Y Q Q
TGC AAG TCC AGC CAG AGT GTT TTA TAC AGC TCC AAC AAT AAG AAC TAC TTA GCT TGG TAC CAG CAG

F R 2 - I M G T ----->
45      50      55      60      65
K P G Q P P K L L I Y W A S
AAA CCA GGA CAG CCT CCT AAA CTA CTC ATT TAC TGG GCA TCT ... ACC

----->
70      75      80      85
R E S G V P D R F S G S G
CGG GAA TCC GGG GTC CCT ... GAC CGA TTC AGT GGC AGC GGG ... TCT GGG ACA GAT TTC ACT

----->
90      95      100      105      110      115
L T I S S L Q A E D V A V Y Y C Q Q Y Y N T
CTC ACC ATC AGC AGC CTG CAG GCT GAA GAT GTG GCA GTT TAT TAC TGT CAG CAA TAT TAT AAT ACT

----->
115      120      125      130
P Q A F G Q G T K V E I K R T V A A P S V F
CCT CAG GCG TTC GGC CAA GGG ACC AAG GTG GAA, ATC AAA CGA ACT GTG GCT GCA CCA TCT GTC TTC

```

Figure 72

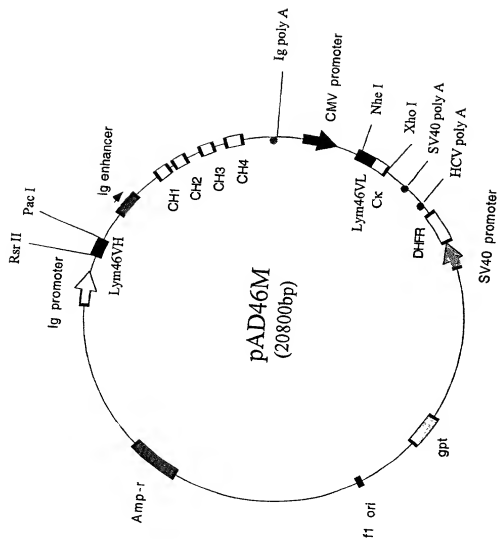


Figure 73

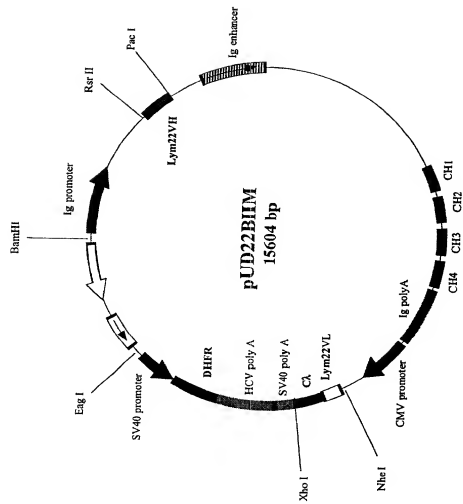


Figure 74

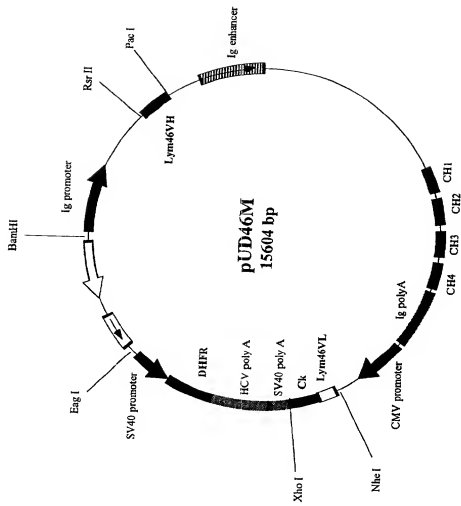


Figure 75

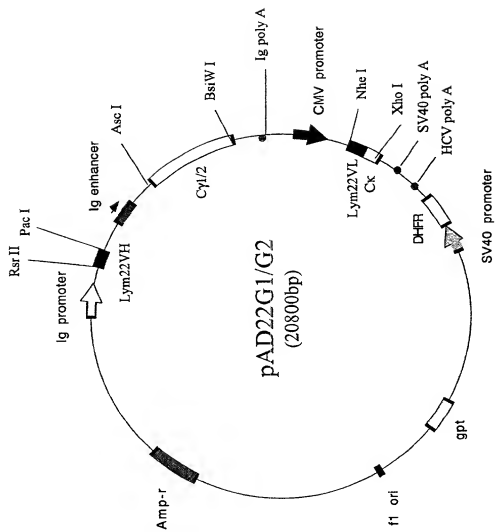


Figure 76

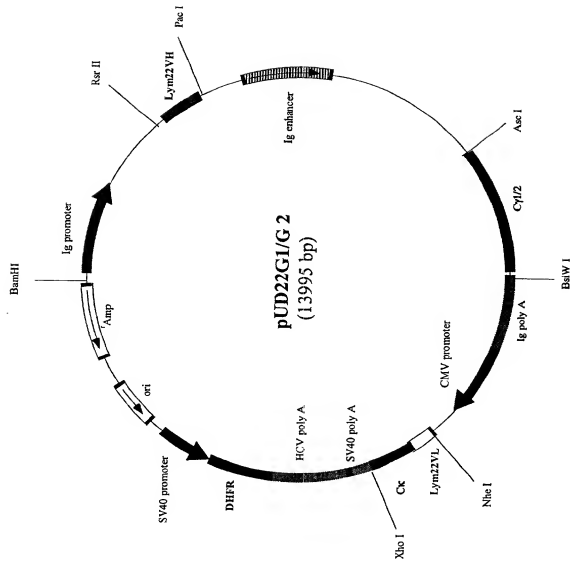


Figure 77

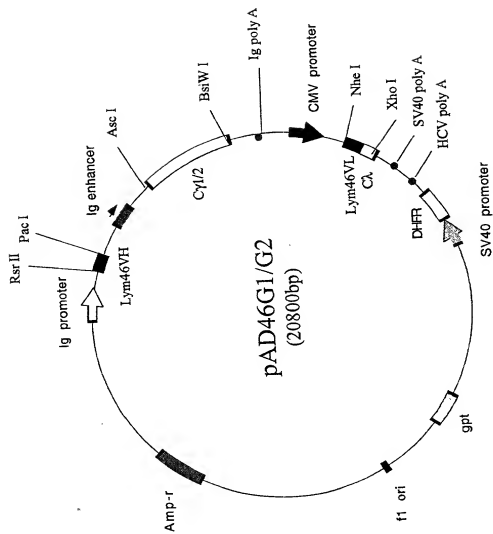


Figure 78

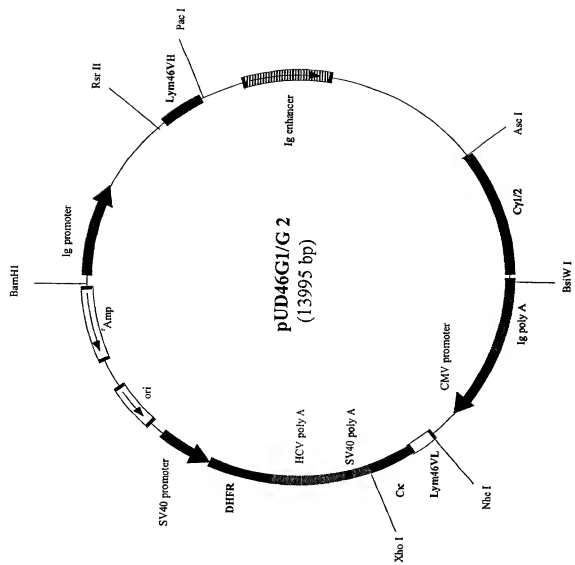
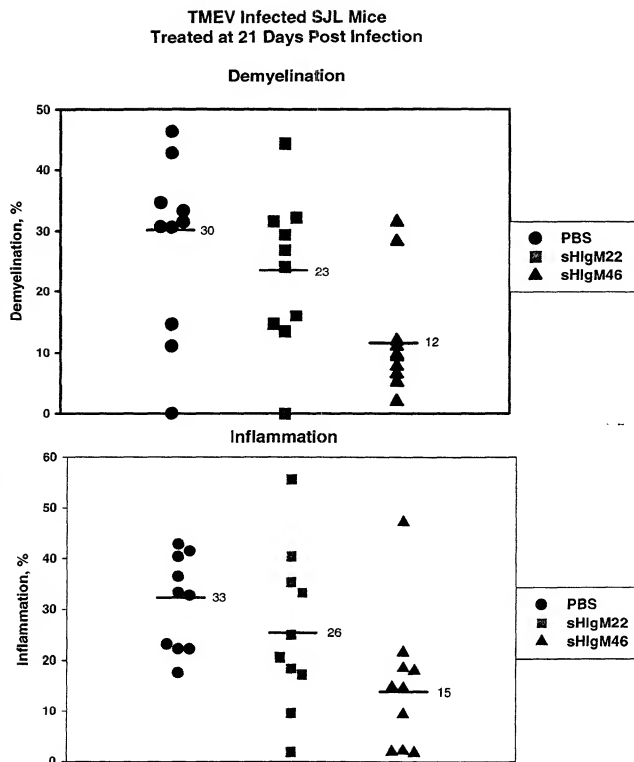


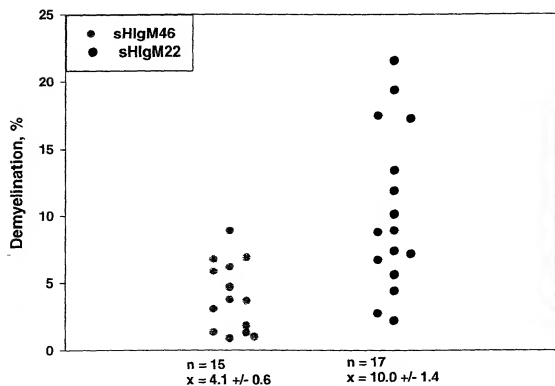
Figure 79



Graded by quadrant. Comparison by Chi square analysis indicates that sHlgM46 treated group is different from the sHlgM22 and PBS treated groups to a significance of $p < 0.001$. Bars indicate means. Combined from 2 experiments.

Figure 80

**Chronically TMEV Infected SJL Mice
Treated with sHlgM46 or sHlgM22**



Groups are different by ANOVA, $P = 0.001$

Figure 81

**Chronically TMEV Infected SJL Mice
Treated sHlgM46 vs All Other Antibodies**

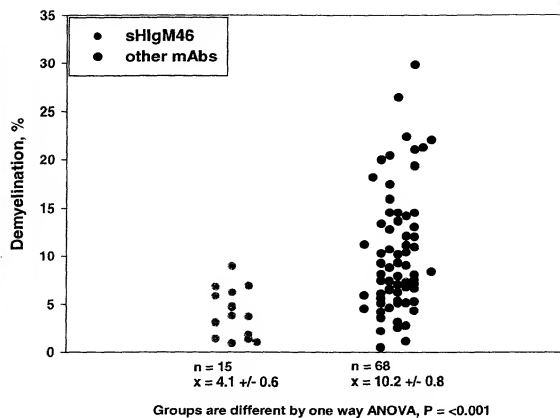


Figure 82

⁴⁵Ca Internalization in Undif CG4 Cells

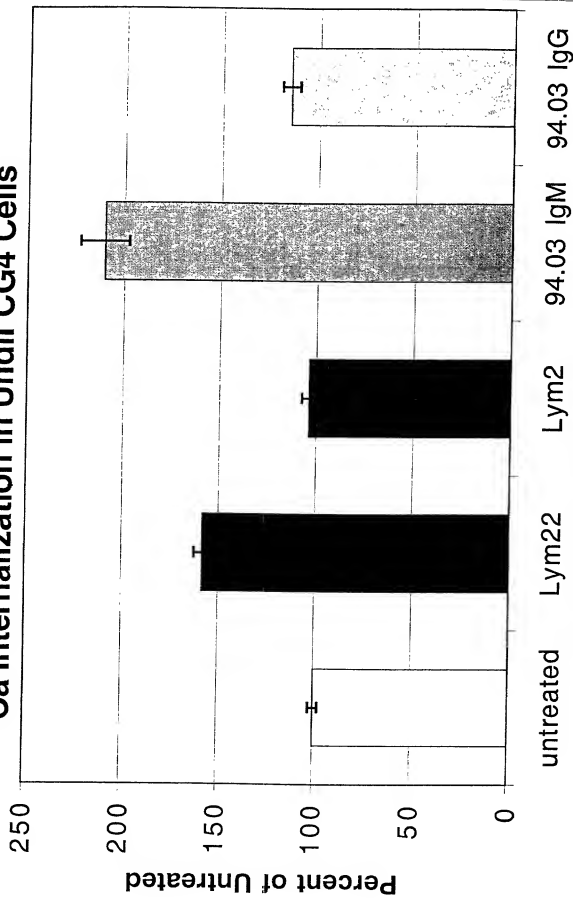


Figure 83

⁴⁵Ca Internalization in CG4 Cells

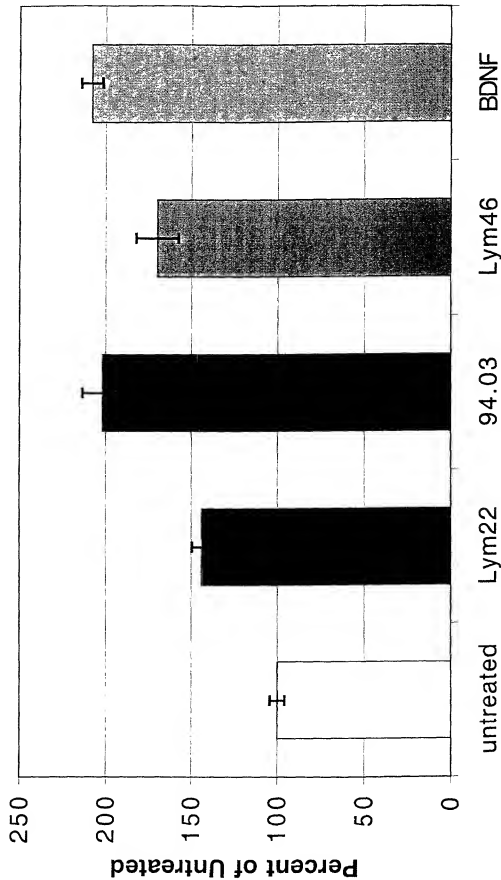


Figure 84

[H2O2] Kill Curve : Lym22 Protective Effect (CG4 cells)

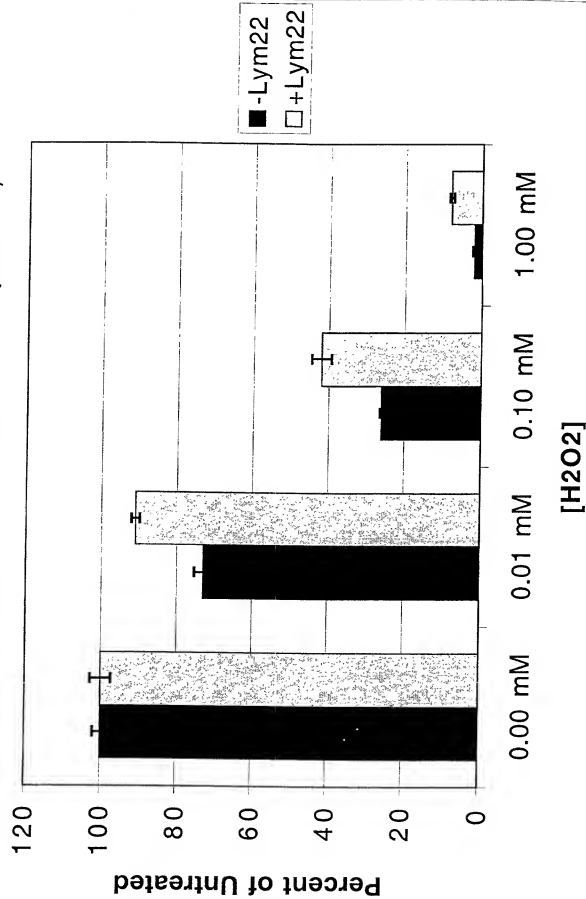


Figure 85

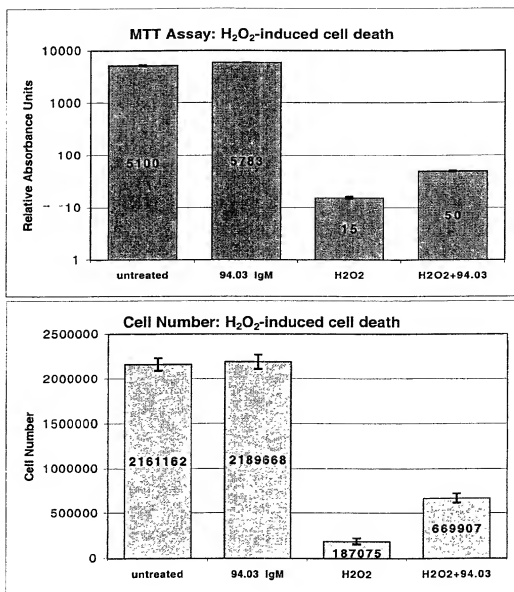


Figure 86